Issuer Filing Information

UBS Group AG

ISSUER FILING INFORMATION

Type of Information:	Issuer Filing Information
Date of Announcement (DD/MM/YY)	24 March 2020
Issuer Name:	UBS Group AG
Name and Title of Representative:	Antonio Boné, Authorized Signatory
Address of Head Office:	Bahnhofstrasse 45, 8001 Zürich, Switzerland
Telephone:	+41 44 239 26 55
Contact Person:	Antonio Boné; telephone +41 44 239 26 55 Karin Müller; telephone +44 20756 88118
Matters related to Financial Instruments Exchange Market, etc.:	Not Applicable
Address of Website for Announcement:	https://www.jpx.co.jp/english/equities/products/tpbm/announcement/index.html

Notes to Investors:

1. TOKYO PRO-BOND Market is a market for professional investors, etc. (*Tokutei Toushika tou*) as defined in Article 2, Paragraph 3, Item 2(b)(2) of the Financial Instruments and Exchange Act of Japan (Act No. 25 of 1948, as amended, the "**FIEA**"). Notes listed on the market ("**Listed Notes**") may involve high investment risk. Investors should be aware of the listing eligibility and timely disclosure requirements that apply to issuers of Listed Notes on the TOKYO PRO-BOND Market and associated risks such as the fluctuation of market prices and shall bear responsibility for their investments. Prospective investors should make investment decisions only after having carefully considered the contents of this Issuer Filing Information.

2. Where this Issuer Filing Information contains (a) any false statement on important matters, or (b) lacks information on: (i) important matters that should be announced or (ii) a material fact that is necessary to avoid misleading content, a person who, at the time of announcement of this Issuer Filing Information, is an officer (meaning an officer stipulated in Article 21, Paragraph 1 of the FIEA (a director of the board (*torishimari-yaku*), accounting advisor (*kaikei-sanyo*), company auditor (*kansa-yaku*) or executive officer (*shikkou-yaku*), or a person equivalent to any of these) of the issuer that announced this Issuer Filing Information shall be liable to compensate persons who acquired or disposed of the securities for any damage or loss arising from the false statement or lack of information in accordance with Article 22 of the FIEA applied mutatis mutandis in Article 27-34 of the FIEA). However, this shall not apply to cases where the person who acquired or disposed of, as applicable, the securities was aware of the existence of the false statement or the lack of information at the time of subscription for acquisition or disposal of the securities. Additionally, the officer shall not be required to assume the liability prescribed above, where he/she proves that he /she was not aware of, and was unable to obtain knowledge of, even with reasonable care, the existence of the false statement or the lack of information.

3. The regulatory framework for TOKYO PRO-BOND Market is different in fundamental aspects from the regulatory framework applicable to other exchange markets in Japan. Investors should be aware of the rules and regulations of the TOKYO PRO-BOND Market, which are available on the Tokyo Stock Exchange website.

4. Tokyo Stock Exchange does not express opinions or issue guarantees, etc. regarding the content of the Issuer Filing Information (including, but not limited to, whether the Issuer Filing Information contains (a) a false statement or (b) lacks information on: (i) important matters that should be announced or (ii) a material fact that is necessary to avoid misleading content) and shall not be liable for any damage or loss including that described above.

5. All prospective investors who consider purchasing the notes of UBS Group AG (the "**Issuer**") issued or to be issued under the Program Information dated 31 July 2019 (as amended and/or supplemented, the "**Program Information**") (the "**Notes**") should read the Program Information and relevant Specified Securities Information before making an investment decision. Among other things, all prospective investors should be

aware that the Notes are subject to certain selling restriction as set forth in the Program Information and the relevant Specified Securities Information.

6. This Issuer Filing Information shall constitute and form the Issuer Filing Information (as defined in Article 27-32, Paragraph 1 of the FIEA) that consists of information prescribed in Article 7, Paragraph 2, Item 1 of the Cabinet Office Ordinance on Provision and Publication of Information on Securities, etc.

7. The Issuer Filing Information consists of the attached documents as set out below:

   (a) UBS Group AG's and UBS AG's annual report for the year ended 31 December 2019 filed on Form 20-F with the United States Securities and Exchange Commission (the "**SEC**") on 03 March 2020.

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 20-F

(Mark One)

☐ **REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934**

OR

☑ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2019

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to .

OR

☐ **SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

UBS Group AG

Commission file number: 1-36764

UBS AG

Commission file number: 1-15060

(Exact Name of Registrants as Specified in Their Respective Charters)

Switzerland

(Jurisdiction of Incorporation or Organization)

UBS Group AG
Bahnhofstrasse 45, CH-8001 Zurich, Switzerland
(Address of Principal Executive Office)

UBS AG
Bahnhofstrasse 45, CH-8001 Zurich, Switzerland and
Aeschenvorstadt 1, CH-4051 Basel, Switzerland
(Address of Principal Executive Offices)

David Kelly
600 Washington Boulevard
Stamford, CT 06901
Telephone: (203) 719-3000
(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)

Securities registered or to be registered pursuant to Section 12(b) of the Act:
Please see page 4-5.
Securities registered or to be registered pursuant to Section 12(g) of the Act:
Please see page 5.
Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act:
Please see page 5.

Indicate the number of outstanding shares of each of each issuer's classes of capital or common stock as of 31 December 2019:

UBS Group AG	UBS AG
Ordinary shares, par value CHF 0.10 per share: 3,859,055,395 ordinary shares (including 243,021,296treasury shares)	Ordinary shares, par value CHF 0.10 per share: 3,858,408,466 ordinary shares (none of which are treasury shares)

Indicate by check mark if the registrants are well-known seasoned issuers, as defined in Rule 405 of the Securities Act.

UBS Group AG	UBS AG
Yes ☐ No ☑	Yes ☐ No ☑

If this report is an annual or transition report, indicate by check mark if the registrants are not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.

Yes ☐ No ☑

Note — Checking the box above will not relieve any registrant required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 from their obligations under those Sections.

Indicate by check mark whether the Registrants (1) have filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrants were required to file such reports) and (2) have been subject to such filing requirements for the past 90 days.

Yes ☑ No ☐

Indicate by check mark whether the registrants have submitted electronically and posted on their corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrants were required to submit and post such files).

Yes ☑ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer or an emerging growth company. See definition of “accelerated filer and large accelerated filer” and “emerging growth company” in Rule 12b-2 of the Exchange Act. (Check One):

UBS Group AG

Large accelerated filer ☑ Accelerated filer ☐ Non-accelerated filer ☐ Emerging growth company ☐

UBS AG

Large accelerated filer ☐ Accelerated filer ☐ Non-accelerated filer ☑ Emerging growth company ☐

Indicate by check mark which basis of accounting the registrants have used to prepare the financial statements included in this filing.

U.S. GAAP ☐ International Financial Reporting Standards as issued by the International Accounting Standards Board ☑ Other ☐

If “Other” has been checked in response to the previous question, indicate by check mark which financial statement item the registrants have elected to follow.

Item 17 ☐ Item 18 ☐

If this is an annual report, indicate by check mark whether the registrants are shell companies (as defined in Rule 12b-2 of the Exchange Act)

Yes ☐ No ☑

Securities registered or to be registered pursuant to Section 12(b) of the Act:

UBS Group AG

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Ordinary Shares (par value of CHF 0.10 each)	UBS	New York Stock Exchange

UBS AG

Title of each class	Trading symbol(s)	Name of each exchange on which registered
UBS AG FI Enhanced Large Cap Growth ETN due June 19, 2024	FBGX	NYSE Arca
UBS AG FI Enhanced Europe 50 ETN due February 12, 2026	FIEE	NYSE Arca
UBS AG FI Enhanced Global High Yield ETN due March 3, 2026	FIHD	NYSE Arca
E-TRACS Linked to the UBS Bloomberg CMCI Food Total Return due April 5, 2038	FUD	NYSE Arca
E-TRACS Linked to the UBS Bloomberg CMCI Agriculture Total Return due April 5, 2038	UAG	NYSE Arca
E-TRACS Linked to the UBS Bloomberg CMCI Total Return due April 5, 2038	UCI	NYSE Arca
E-TRACS Linked to the UBS Bloomberg CMCI Total Return Series B due April 5, 2038	UCIB	NYSE Arca
E-TRACS Linked to the UBS Bloomberg CMCI Gold Total Return due April 5, 2038	UBG	NYSE Arca
E-TRACS Linked to the UBS Bloomberg CMCI Silver Total Return due April 5, 2038	USV	NYSE Arca
E-TRACS Linked to the Bloomberg Commodity Index Total Return℠ due October 31, 2039	DJCI	NYSE Arca
E-TRACS Linked to the Bloomberg Commodity Index Total Return℠ Series B due October 31, 2039	DJCB	NYSE Arca
E-TRACS Linked to the Alerian MLP Infrastructure Index due April 2, 2040	MLPI	NYSE Arca
E-TRACS Linked to the Alerian MLP Infrastructure Index Series B due April 2, 2040	MLPB	NYSE Arca
E-TRACS Linked to the Alerian Natural Gas MLP Index due July 9, 2040	MLPG	NYSE Arca
E-TRACS Linked to the Wells Fargo® Business Development Company Index due April 26, 2041	BDCS	NYSE Arca
E-TRACS Linked to the Wells Fargo® Business Development Company Index Series B due April 26, 2041	BDCZ	NYSE Arca
2×Leveraged Long E-TRACS Linked to the Wells Fargo® Business Development Company Index due May 24, 2041	BDCL	NYSE Arca
2×Leveraged E-TRACS Linked to the Wells Fargo® Diversified Business Development Company Index Series B due October 21, 2049	BDCY	NYSE Arca
ETRACS Monthly Pay 2xLeveraged Dow Jones Select Dividend Index ETN due May 22, 2042	DVYL	NYSE Arca

ETRACS 2xMonthly Leveraged Alerian MLP Infrastructure Index ETN Series B due February 12, 2046	MLPQ	NYSE Arca
ETRACS Monthly Pay 2xLeveraged S&P Dividend ETN due May 22, 2042	SDYL	NYSE Arca
ETRACS Alerian MLP Index ETN due July 18, 2042	AMU	NYSE Arca
ETRACS Alerian MLP Index ETN Series B due July 18, 2042	AMUB	NYSE Arca
ETRACS Monthly Pay 2xLeveraged Mortgage REIT ETN due October 16, 2042	MORL	NYSE Arca
ETRACS Monthly Pay 2xLeveraged Mortgage REIT ETN Series B due October 16, 2042	MRRL	NYSE Arca
ETRACS Monthly Pay 2xLeveraged Diversified High Income ETN due November 12, 2043	DVHL	NYSE Arca
ETRACS Monthly Pay 2xLeveraged Closed-End Fund ETN Series B due December 10, 2043	CEFZ	NYSE Arca
ETRACS Monthly Pay 2xLeveraged Closed-End Fund ETN due December 10, 2043	CEFL	NYSE Arca
ETRACS 2xLeveraged Long Wells Fargo Business Development Company Index ETN Series B due May 24, 2041	LBDC	NYSE Arca
ETRACS Monthly Pay 2xLeveragedWells FargoMLP Ex-Energy ETN Series B due October 21, 2049	LMLB	NYSE Arca
ETRACS Monthly Pay 2xLeveraged Wells Fargo MLP Ex-Energy ETN due June 24, 2044	LMLP	NYSE Arca
ETRACS Monthly Pay 2xLeveraged US High Dividend Low Volatility ETN due September 30, 2044	HDLV	NYSE Arca
ETRACS Monthly Pay 2xLeveraged US Small Cap High Dividend ETN due February 6, 2045	SMHD	NYSE Arca
ETRACS 2xMonthly Pay Leveraged US Small Cap High Dividend ETN Series B due November 10, 2048	SMHB	NYSE Arca
ETRACS Monthly Reset 2xLeveraged ISE Exclusively Homebuilders ETN due March 13, 2045	HOML	NYSE Arca
ETRACS Monthly Pay 2xLeveraged MSCI US REIT index ETN due May 5, 2045	LRET	NYSE Arca
ETRACS 2xMonthly Leveraged S&P MLP Index ETN Series B due February 12. 2046	MLPZ	NYSE Arca
ETRACS S&P GSCI Crude Oil Total Return Index ETN due February 22, 2046	OILX	NYSE Arca
ETRACS ProShares Daily 3x Long Crude ETN linked to the Bloomberg WTI Crude Oil Subindex ER due January 4, 2047	WTIU	NYSE Arca
ETRACS ProShares Daily 3x Inverse Crude ETN linked to the Bloomberg WTI Crude Oil Subindex ER due January 4, 2047	WTID	NYSE Arca
ETRACS 2xMonthly Pay Leveraged Preferred Stock Index ETN due September 25, 2048	PFFL	NYSE Arca
ETRACS NYSE® Pickens CoreMidstream™ Index ETN due August 20, 2048	PYPE	NYSE Arca
VelocitySharesTM 1X Long VSTOXX Futures ETN linked to the VSTOXX Short-Term Futures Investable Index due May 3, 2047	EVIX	Cboe
VelocitySharesTM 1X Daily Inverse VSTOXX Futures ETN linked to the VSTOXX Short-Term Futures Inverse Investable Index due May 3, 2047	EXIV	Cboe
ETRACS Monthly Pay 2xLeveraged US High Dividend Low Volatility ETN Series B due October 21, 2049	HDLB	NYSE Arca

Securities registered or to be registered pursuant to Section 12(g) of the Act:
None

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act:
None

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This report contains statements that constitute “forward-looking statements,” including but not limited to management’s outlook for UBS’s financial performance and statements relating to the anticipated effect of transactions and strategic initiatives on UBS’s business and future development. While these forward-looking statements represent UBS’s judgments and expectations concerning the matters described, a number of risks, uncertainties and other important factors could cause actual developments and results to differ materially from UBS’s expectations. These factors include, but are not limited to: (i) the degree to which UBS is successful in the ongoing execution of its strategic plans, including its cost reduction and efficiency initiatives and its ability to manage its levels of risk-weighted assets (RWA) and leverage ratio denominator (LRD), including to counteract regulatory-driven increases, liquidity coverage ratio and other financial resources, and the degree to which UBS is successful in implementing changes to its businesses to meet changing market, regulatory and other conditions; (ii) the continuing low or negative interest rate environment in Switzerland and other jurisdictions, developments in the macroeconomic climate and in the markets in which UBS operates or to which it is exposed, including movements in securities prices or liquidity, credit spreads, and currency exchange rates, and the effects of economic conditions, market developments, and geopolitical tensions, and changes to national trade policies on the financial position or creditworthiness of UBS’s clients and counterparties as well as on client sentiment and levels of activity; (iii) changes in the availability of capital and funding, including any changes in UBS’s credit spreads and ratings, as well as availability and cost of funding to meet requirements for debt eligible for total loss-absorbing capacity (TLAC); (iv) changes in or the implementation of financial legislation, including Interest Rate Benchmark Reform, and regulation in Switzerland, the US, the UK, the European Union and other financial centers that have imposed, or resulted in, or may do so in the future, more stringent or entity-specific capital, TLAC, leverage ratio, net stable funding ratio, liquidity and funding requirements, heightened operational resilience requirements, incremental tax requirements, additional levies, limitations on permitted activities, constraints on remuneration, constraints on transfers of capital and liquidity and sharing of operational costs across the Group or other measures, and the effect these will or would have on UBS’s business activities; (v) the degree to which UBS is successful in implementing further changes to its legal structure to improve its resolvability and meet related regulatory requirements and the potential need to make further changes to the legal structure or booking model of UBS Group in response to legal and regulatory requirements, proposals in Switzerland and other jurisdictions for mandatory structural reform of banks or systemically important institutions or to other external developments, and the extent to which such changes will have the intended effects; (vi) UBS’s ability to maintain and improve its systems and controls for the detection and prevention of money laundering and compliance with sanctions to meet evolving regulatory requirements and expectations, in particular in the US; (vii) the uncertainty arising from the UK’s exit from the EU; (viii) changes in UBS’s competitive position, including whether differences in regulatory capital and other requirements among the major financial centers will adversely affect UBS’s ability to compete in certain lines of business; (ix) changes in the standards of conduct applicable to our businesses that may result from new regulations or new enforcement of existing standards, including recently enacted and proposed measures to impose new and enhanced duties when interacting with customers and in the execution and handling of customer transactions; (x) the liability to which UBS may be exposed, or possible constraints or sanctions that regulatory authorities might impose on UBS, due to litigation, contractual claims and regulatory investigations, including the potential for disqualification from certain businesses, potentially large fines or monetary penalties, or the loss of licenses or privileges as a result of regulatory or other governmental sanctions, as well as the effect that litigation, regulatory and similar matters have on the operational risk component of our RWA as well as the amount of capital available for return to shareholders; (xi) the effects on UBS’s cross-border banking business of tax or regulatory developments and of possible changes in UBS’s policies and practices relating to this business; (xii) UBS’s ability to retain and attract the employees necessary to generate revenues and to manage, support and control its businesses, which may be affected by competitive factors; (xiii) changes in accounting or tax standards or policies, and determinations or interpretations affecting the recognition of gain or loss, the valuation of goodwill, the recognition of deferred tax assets and other matters; (xiv) UBS’s ability to implement new technologies and business methods, including digital services and technologies, and ability to successfully compete with both existing and new financial service providers, some of which may not be regulated to the same extent; (xv) limitations on the effectiveness of UBS’s internal processes for risk management, risk control, measurement and modeling, and of financial models generally; (xvi) the occurrence of operational failures, such as fraud, misconduct, unauthorized trading, financial crime, cyberattacks or other cybersecurity disruptions, and systems failures; (xvii) restrictions on the ability of UBS Group AG to make payments or distributions, including due to restrictions on the ability of its subsidiaries to make loans or distributions, directly or indirectly, or, in the case of financial difficulties, due to the exercise by FINMA or the regulators of UBS’s operations in other countries of their broad statutory powers in relation to protective measures, restructuring and liquidation proceedings; (xviii) the degree to which changes in regulation, capital or legal structure, financial results or other factors may affect UBS’s ability to maintain its stated capital return objective; and (xix) the effect that these or other factors or unanticipated events may have on our reputation and the additional consequences that this may have on our business and performance. The sequence in which the factors above are presented is not indicative of their likelihood of occurrence or the potential magnitude of their consequences. Our business and financial performance could be affected by other factors identified in our past and future filings and reports, including those filed with the SEC. More detailed information about those factors is set forth in documents furnished by UBS and filings made by UBS with the SEC, including UBS’s Annual Report on Form 20-F for the year ended 31 December 2019. UBS is not under any obligation to (and expressly disclaims any obligation to) update or alter its forward-looking statements, whether as a result of new information, future events, or otherwise.

Cross-reference table

Set forth below are the respective items of SEC Form 20-F, and the locations in this document where the corresponding information can be found.

- **Annual Report** refers to the Annual Report 2019 of UBS Group AG and UBS AG annexed hereto, which forms an integral part hereof.
- **Supplement** refers to certain supplemental information contained in this forepart of the Form 20-F, starting on page 13 following the cross-reference table.
- **Financial Statements** refers to the consolidated financial statements of either UBS Group AG or UBS AG, or both, depending upon the context, contained in the Annual Report.

In the cross-reference table below, page numbers refer to either the Annual Report or the Supplement, as noted.

Please see page 6 of the Annual Report for definitions of terms used in this Form 20-F relating to UBS.

Form 20-F item	Response or location in this filing
Item 1. Identity of Directors, Senior Management and Advisors.	Not applicable.
Item 2. Offer Statistics and Expected Timetable.	Not applicable.
Item 3. Key Information	
A – Selected Financial Data	Annual Report, *Selected Financial Data* (682-685 and 705-708), *Statement of changes in equity* (304-307 and 490-493) and *UBS shares* (197).
B – Capitalization and Indebtedness.	Not applicable.
C – Reasons for the Offer and Use of Proceeds.	Not applicable.
D – Risk Factors.	Annual Report, *Risk factors* (60-70).
Item 4. Information on the Company.	
A – History and Development of the Company	1-3: Annual Report, *Corporate information* and *Contacts* (7). The registrants' agent is David Kelly, 600 Washington Boulevard, Stamford, CT 06901. 4: Annual Report, *Our evolution* (14-15); *Our strategy* (18); *Our businesses* (20-30); Note 32 to each set of Financial Statements (*Changes in organization and acquisitions and disposals of subsidiaries and businesses*) (464-465 and 651-652) 5: Refer to our management discussion and analysis for a description of material acquisitions and divestitures in Annual Report, *Our businesses* (20-30), as applicable, Note 15 to each set of Financial Statements (*Property, equipment and software)* (372 and 558) and Note 32 to each set of Financial Statements (*Changes in organization and acquisitions and disposals of subsidiaries and businesses*) (464-465 and 651-652). 6-7: Nothing to disclose. 8: Annual Report, *Information sources* (732).
B – Business Overview.	1, 2 and 5: Annual Report, *Our strategy, business model and environment* (18-70), Note 2a to each set of Financial Statements (*Segment reporting)* (347-350 and 534-537) and Note 2b to each set of Financial Statements (*Segment reporting by geographic location)* (351 and 538). See also Supplement (13). 3: *Seasonal characteristics* (83). 4: Not applicable. 6: None. 7: Information as to the basis for these statements normally accompanies the statements, except where marked in the report as a statement based upon publicly available information or internal estimates, as applicable. 8: *Regulation and supervision* (49-53) and *Regulatory and legal developments* (54-59). Supplement (14).

C – Organizational Structure.	Annual Report, *Our evolution* (14-15) and Note 31 to each set of Financial Statements (*Interests in subsidiaries and other entities)* (458-463 and 645-650).
D – Property, Plant and Equipment.	Annual Report, *Property, plant and equipment* (686 and 709), Note 15 to each set of Financial Statements (*Property, equipment and software)* (372 and 558), Note 33 to each set of Financial Statements (*Finance lease receivables*) (466 and 653).
Information required by Industry Guide 3	Annual Report, *Information required by industry guide 3* (687-703 and 710-726) and *Selected financial data* (682-685 and 705-708).
Item 4A. Unresolved Staff Comments.	None.
Item 5. Operating and Financial Review and Prospects.	
A – Operating Results.	Annual Report, *Our key figures* (8), *UBS AG consolidated key figures* (476), *Performance targets and measurement* (19), *Group performance* (75-84), financial and operating performance by business division and Corporate Center (85-102), Note 2a to each set of Financial Statements (*Segment reporting)* (347-350 and 534-537), *Currency management* (173), *Capital management* (175-199), *Risk factors* (60-70), *Our environment* (31-34), Note 28 to each set of Financial Statements (*Hedge Accounting)* (430-435 and 617-622), *Regulatory and legal developments* (54-59), *Significant accounting and financial reporting changes* (73-74), Note 1 to each set of Financial Statements (*Summary of significant accounting policies*) (311-346 and 498-533) and Note 32 to each set of Financial Statements (*Changes in organization and acquisitions and disposals of subsidiaries and businesses*) (464-465 and 651-652).
B – Liquidity and Capital Resources.	Annual Report, *Risk factors* (60-70), *Group performance* (75-84), financial and operating performance by business division and Corporate Center (85-102), *Seasonal characteristics* (83), *Interest rate risk in the banking book* (143-146), *Balance sheet, liquidity and funding management* (156-169), *Currency management* (173), *Cash flows* (174), *Capital management* (175-199), Note 26a to each set of Financial Statements (*Restricted financial assets)* (426-427 and 612-613), Note 13 (*Financial assets at fair value not held for trading*) (371 and 557), Note 14 (*Financial assets measured at fair value through other comprehensive income*) (372 and 558), and Note 17a (*Other financial assets measured at amortized cost*) (376 and 562), Note 11 to each set of Financial Statements (*Derivative instruments)* (365-370 and 551-556), Note 19 to each set of Financial Statements (*Debt issued designated at fair value)* (377 and 563), Note 20 to each set of Financial Statements (*Debt issued measured at amortized cost*) (378-379 and 564-565), *Short-term borrowings* (694 and 717), *Property, Plant and Equipment* (686 and 709), Note 15 to each set of Financial Statements (*Property, equipment and software)* (372 and 558), Note 28 to each set of Financial Statements (*Hedge Accounting*) (430-435 and 617-622), Note 33 to each set of Financial Statements (*Finance lease receivables*) (466 and 653). Liquidity and capital management is undertaken at UBS as an integrated asset and liability management function. While we believe our 'working capital' is sufficient for the company's present requirements, it is our opinion that, as a bank, our liquidity coverage ratio (LCR) is the more relevant measure. For more information see, Annual Report, *Risk, treasury and capital management, Liquidity coverage ratio* (159).
C—Research and Development, Patents and Licenses, etc.	Not applicable.
D—Trend Information.	Annual Report, *Our businesses* (20-30), *Our environment* (31-34), *Regulatory and legal developments* (54-59), *Risk factors* (60-70), *Financial and operating performance* (72-102) and *Top and emerging risks* (108).
E—Off-Balance Sheet Arrangements.	Annual Report, *Off-balance sheet* (170-172), Note 31c) to each set of Financial Statements (*Interests in unconsolidated structured entities*) (461-463 and 648-650), Note 26 to each set of Financial Statements (*Restricted and transferred financial assets)* (426-428 and 614-616) and Note 33 to each set of Financial Statements (*Finance lease receivables*) (466 and 653).
F—Tabular Disclosure of Contractual Obligations.	Annual Report, *Contractual obligations* (172). Finance lease obligations disclosed together with operating leases as "Lease obligations", as it is not material enough to breakout separately.
Item 6. Directors, Senior Management and Employees.	
A – Directors and Senior Management.	1, 2 and 3: Annual Report, *Board of Directors* (214-220) and *Group Executive Board* (230-236). 4, 5: None.

<table>
<tr><td>B – Compensation.</td><td>1: Annual Report, Compensation (242-287), Note 30 to each set of Financial Statements (Employee benefits: variable compensation) (450-457 and 638-644) and Note 35 to each set of Financial Statements (Related parties) (467-468 and 654-656).
2: Annual Report, Note 29 to each set of Financial Statements (Pension and other post-employment benefit plans) (436-449 and 623-637).</td></tr>
<tr><td>C – Board practices.</td><td>1: Annual Report, Board of Directors (213-228). The term of office for members of the Board of Directors and its Chairman expires after completion of the next Annual General Meeting. The next Annual General Meeting is scheduled on 29 April 2020.
2: Annual Report, Compensation (242-288) and Note 35 to each set of Financial Statements (Related parties) (467-468 and 654-656).
3: Annual Report, Corporate Governance and Compensation (202-203), Audit committee (223) and Compensation Committee (224).
Refer to the Supplement (18) for information on UBS AG's Board of Directors' executive sessions.</td></tr>
<tr><td>D—Employees.</td><td>Annual Report, Employees (43-44).</td></tr>
<tr><td>E—Share Ownership.</td><td>Annual Report, Compensation (242-288), Note 30 to each set of Financial Statements (Employee benefits: variable compensation) (450-457 and 638-644) and Note 35b to each set of Financial Statements (Equity holdings of key management personnel) (467 and 654).</td></tr>
<tr><td colspan="2">Item 7. Major Shareholders and Related Party Transactions.</td></tr>
<tr><td>A—Major Shareholders.</td><td>Annual Report, Group structure and shareholders (204-205), Share capital structure (206-210) and Voting rights, restrictions and representation (211).

The number of shares of UBS Group AG held by the respective shareholders listed on page 205 of the Annual Report registered in the UBS share register with 3% or more of total share capital as of 31 December 2019 is as follows:

<table>
<tr><td>Shareholder</td><td>Number of shares held</td></tr>
<tr><td>Chase Nominees Ltd., London</td><td>422,341,278</td></tr>
<tr><td>DTC (Cede & Co.), New York</td><td>292,085,340</td></tr>
<tr><td>Nortrust Nominees Ltd., London</td><td>189,027,452</td></tr>
</table>
The number of shares of UBS AG held by UBS Group AG as of 31 December 2019 was 3,858,408,466 shares.</td></tr>
<tr><td>B—Related Party Transactions.</td><td>Annual Report, Loans granted to GEB members (286), Loans granted to BoD members (286) and Note 35 to each set of Financial Statements (Related parties) (467-468 and 654-656).

The loans disclosed in such sections (a) were made in the ordinary course of business, (b) were made on substantially the same terms, including interest rates and collateral, as those prevailing at the time for comparable transactions with other persons, and (c) did not involve more than the normal risk of collectability or present other unfavorable features.</td></tr>
<tr><td>C—Interests of Experts and Counsel.</td><td>Not applicable.</td></tr>
</table>

Item 8. Financial Information.	
A—Consolidated Statements and Other Financial Information.	1, 2, 3, 4, 6: Please see Item 18 of this Form 20-F. 5: Not applicable. 7: Information on material legal and regulatory proceedings is in Note 21 to each set of Financial Statements (*Provisions and contingent liabilities*) (380-388 and 566-574). For developments during the year, please see also the note *Provisions and contingent liabilities* in the Financial Information section in our respective quarterly reports for the First, Second and Third Quarters 2019, filed on Forms 6-K dated April 25, 2019 (UBS Group AG) and April 30, 2019 (UBS AG), July 23, 2019 (UBS Group AG) and July 26, 2019 (UBS AG) and October 22, 2019 (UBS Group AG) and October 25, 2019 (UBS AG), respectively; as well as the *Provisions and contingent liabilities* section in the Fourth Quarter 2019 Report, filed on Form 6-K dated January 21, 2020. The disclosures in each such Quarterly Report speak only as of their respective dates. 8: Annual Report, *Letter to Shareholders* (*2-5*)*, Shareholder returns* (42), *Our strategy, Driving increasing returns, Priority VII* (18), *Dividend Distribution* (173)*, Distributions to shareholders* (209).
B—Significant Changes.	Annual Report, Note 1 to each set of Financial Statements (*Summary of significant accounting policies)* (311-346 and 498-533)).
Item 9. The Offer and Listing.	
A – Offer and Listing Details.	1, 2, 3, 5, 6, 7: Not applicable. 4: *Listing of UBS Group AG shares* are listed on the New York Stock Exchange under the symbol UBS and on the Swiss SIX Exchange under the symbol UBSG, *Group structure and shareholders* (204-205) and *Share capital structure* (206-210).
B—Plan of Distribution.	Not applicable.
C—Markets.	Annual Report, *Listing of UBS Group AG shares* (199).
D—Selling Shareholders.	Not applicable.
E—Dilution.	Not applicable.
F—Expenses of the Issue.	Not applicable.
Item 10. Additional Information.	
A—Share Capital.	Not applicable.
B—Memorandum and Articles of Association.	Annual Report, *Elections and terms of office* (221), *Share capital structure* (206-210), *Organizational principles and structure* (221), *Shareholders' participation rights* (211-212), *Significant shareholders* (204-205), *Change of control and defense measures* (237), *Board of Directors* (213-228), *Compensation governance* (265-266) and *Board of Directors Compesnation* (273-275). Supplement (15-20).
C—Material Contracts.	The Terms & Conditions of the several series of capital instruments issued to date, and to be issued pursuant to Deferred Capital Contingent Plans, are exhibits 4.1 through 4.19 to this Form 20-F. These notes are described under *Capital and other instruments contributing to our total loss-absorbing capacity* on page 177 of the Annual Report and *Our deferred compensation plans*on page 259 of the Annual Report. The settlement agreements and orders filed as exhibits 4.20 through 4.24 are described in item 5 (*Foreign exchange, LIBOR and benchmark rates, and other trading practices*) of Note 21 (*Provisions and contingent liabilities*) to each set of Financial Statements 380-388 and 566-574. The Asset Transfer Agreement by which certain assets and liabilities of UBS AG were transferred to UBS Switzerland AG is filed as Exhibit 4.25, and is described under *Joint liability of UBS Switzerland AG* on page 662 of the Annual Report.

D—Exchange Controls.	Other than in relation to economic sanctions, there are no restrictions under the Articles of Association of UBS Group AG or UBS AG, nor under Swiss law, as presently in force, that limit the right of non-resident or foreign owners to hold UBS's securities freely. There are currently no Swiss foreign exchange controls or other Swiss laws restricting the import or export of capital by UBS or its subsidiaries, nor restrictions affecting the remittance of dividends, interest or other payments to non-resident holders of UBS securities. The Swiss federal government may impose sanctions on particular countries, regimes, organizations or persons which may create restrictions on exchange of control. A current list, in German, French and Italian, of such sanctions can be found at www.seco-admin.ch. UBS may also be subject to sanctions regulations from other jurisdictions where it operates imposing further restrictions.
E—Taxation.	Supplement (20-22).
F—Dividends and Paying Agents.	Not applicable.
G—Statement by Experts.	Not applicable.
H—Documents on Display.	UBS files periodic reports and other information with the Securities and Exchange Commission. You may read and copy any document that we file with the SEC on the SEC's website, *www.sec.gov*. Much of this information may also be found on the UBS website at *www.ubs.com/investors*.
I—Subsidiary Information.	Not applicable.
Item 11. Quantitative and Qualitative Disclosures About Market Risk.	
(a) Quantitative Information About Market Risk.	Annual Report, *Market risk* (138-147).
(b) Qualitative Information About Market Risk.	Annual Report, *Market risk* (138-147).
(c) Interim Periods.	Not applicable.
Item 12. Description of Securities Other than Equity Securities.	
A – Debt Securities	Not applicable.
B – Warrants and Rights	Not applicable.
C – Other Securities	Not applicable.
D – American Depositary Shares	Not applicable.
Item 13. Defaults, Dividend Arrearages and Delinquencies.	There has been no material default in respect of any indebtedness of UBS or any of its significant subsidiaries or any arrearages of dividends or any other material delinquency not cured within 30 days relating to any preferred stock of UBS Group AG or any of its significant subsidiaries.
Item 14. Material Modifications to the Rights of Security Holders and Use of Proceeds.	None.
Item 15. Controls and Procedures.	
(a) Disclosure Controls and Procedures	Annual Report, *US disclosure requirements* (241), and Exhibit 12 to this Form 20-F.
(b) Management's Annual Report on Internal Control over Financial Reporting	Annual Report, *Management's reports on internal control over financial reporting* (292 and 478).
(c) Attestation Report of the Registered Public Accounting Firm	Annual Report, *Reports of Independent Registered Public Accounting Firm* (293-294 and 479-480).
(d) Changes in Internal Control over Financial Reporting	None.

Item 15T. Controls and Procedures.	Not applicable.
Item 16A. Audit Committee Financial Expert.	Annual Report, *Audit Committee* (223) and *Differences from corporate governance standards relevant to US-listed companies* (220-221). All Audit Committee members have accounting or related financial management expertise and in compliance with the rules established pursuant to the US Sarbanes-Oxley Act of 2002, at least one member, the Chairperson Jeremy Anderson, qualifies as a financial expert.
Item 16B. Code of Ethics.	Annual Report, *Code of Conduct and Ethics* (46). UBS's Code of Conduct and Ethics ("the Code") is published on our website under https://www.ubs.com/code. The Code is regularly reviewed to make sure it is consistent with the rest of UBS's policies, as well as the law. The current Code published in May 2019 reflects minor changes on pages 6, 7 and 15 compared to the previous version: • Strengthening of language around fair dealing and competition; • Clarification on tax matters and on the threshold of reporting violations to authorities; • Re-write of the whistleblowing section to reflect current process and language; • Change to "Questions about the Code" to reflect the role and responsibility of GCRG. The UBS Code of Business Conduct does not include a waiver option , and no waiver from any provision of the Code was granted to any employee in 2019.
Item 16C. Principal Accountant Fees and Services.	Annual Report, *Auditors* (238-239). None of the non-audit services so disclosed were approved by the Audit Committee pursuant to paragraph (c) (7)(i)(C) of Rule 2-01 of Regulation S-X.
Item 16D. Exemptions from the Listing Standards for Audit Committees.	Not applicable.
Item 16E. Purchases of Equity Securities by the Issuer and Affiliated Purchasers.	Annual Report, *Treasury share purchases* (198). On 22 January 2018, UBS Group AG announced its intention to buy back its own registered shares over the following three years starting from March 2018, amounting to a maximum of CHF 2 billion.
Item 16F. Changes in Registrant's Certifying Accountant.	Not applicable.
Item 16G. Corporate Governance.	Annual Report, *Differences from corporate governance standards relevant to US-listed companies* (202-203).
Item 16H. Mine Safety Disclosure.	Not applicable.
Item 17. Financial Statements.	Not applicable.
Item 18. Financial Statements.	Annual Report, *Consolidated financial statements* (306-674), *Significant regulated subsidiary and sub-group information* (676-677) and *Additional regulatory information* (681-726).
Item 19. Exhibits	Supplement (23-24).

Supplemental information

Item 4. Information on the Company
B – Business Overview

Item 4.B.2. Geographic breakdown of revenues

The operating regions shown in the table below correspond to the regional management structure of the Group. The allocation of operating income to these regions reflects, and is consistent with, the basis on which the business is managed and its performance is evaluated. These allocations involve assumptions and judgments that management considers to be reasonable, and may be refined to reflect changes in estimates or management structure.

The main principles of the allocation methodology are that client revenues are attributed to the domicile of the client, and trading and portfolio management revenues are attributed to the country where the risk is managed. This revenue attribution is consistent with the mandate of the regional Presidents. Certain revenues, such as those related to Non-core and Legacy Portfolio within Corporate Center, are managed at a Group level. These revenues are included in the *Global* column.

USD billion

Business Division	FY	Americas	Asia Pacific	EMEA	Switzerland	Global	Total
Global Wealth Management	2019	9.1	2.2	3.4	1.6	0.1	16.4
	2018[1]	9.1	2.4	3.6	1.6	0.1	16.8
	2017[1]	8.7	2.3	3.5	1.6	0.0	16.1
Personal & Corporate Banking	2019	0.0	0.0	0.0	3.7	0.0	3.7
	2018[1]	0.0	0.0	0.0	4.2	0.0	4.2
	2017[1]	0.0	0.0	0.0	3.8	0.0	3.8
Asset Management	2019	0.5	0.4	0.4	0.6	(0.0)	1.9
	2018[1]	0.5	0.4	0.3	0.7	(0.1)	1.9
	2017[1]	0.5	0.4	0.5	0.8	(0.1)	2.1
Investment Bank	2019	2.5	2.1	2.0	0.8	(0.1)	7.3
	2018[1]	3.0	2.1	2.3	0.7	(0.1)	8.0
	2017[1]	2.8	2.1	2.1	0.7	(0.1)	7.7
Corporate Center	2019	0.0	0.0	0.0	0.0	(0.4)	(0.4)
	2018[1]	0.0	0.0	0.0	0.0	(0.6)	(0.6)
	2017[1]	0.0	0.0	0.0	0.0	(0.1)	(0.1)
Group	2019	12.0	4.7	5.8	6.7	(0.4)	28.9
	2018[1]	12.6	4.9	6.2	7.2	(0.7)	30.2
	2017[1]	12.0	4.8	6.1	6.9	(0.2)	29.6

1 Comparative figures in this table have been restated for the changes in Corporate Center cost and resource allocation to the business divisions and the changes in the equity attribution framework. Refer to "Note 1b Changes in accounting policies, comparability and other adjustments" and "Note 2b Segment reporting by geographic location" in the "Consolidated financial statements" section of Annual Report 2019 for more information.

Disclosure Pursuant To Section 219 of the Iran Threat Reduction And Syrian Human Rights Act

Section 219 of the US Iran Threat Reduction and Syria Human Rights Act of 2012 ("ITRA") added Section 13(r) to the US Securities Exchange Act of 1934, as amended (the "Exchange Act") requiring each SEC reporting issuer to disclose in its annual and, if applicable, quarterly reports whether it or any of its affiliates have knowingly engaged in certain activities, transactions or dealings relating to Iran or with the Government of Iran or certain designated natural persons or entities involved in terrorism or the proliferation of weapons of mass destruction during the period covered by the report. The required disclosure may include reporting of activities not prohibited by US or other law, even if conducted outside the US by non-US affiliates in compliance with local law. Pursuant to Section 13(r) of the Exchange Act, we note the following for the period covered by this annual report:

UBS has a Group Sanctions Policy that prohibits transactions involving sanctioned countries, including Iran, and sanctioned individuals and entities. However, UBS maintains one account involving the Iranian government under the auspices of the United Nations in Geneva after agreeing with the Swiss government that it would do so only under certain conditions. These conditions include that payments involving the account must: (1) be made within Switzerland; (2) be consistent with paying rent, salaries, telephone and other expenses necessary for its operations in Geneva; and (3) not involve any Specially Designated Nationals (SDNs) blocked or otherwise restricted under US or Swiss law. The corrected gross revenues for this UN- related account in 2018 were approximately USD 44,757.50. In 2019, the gross revenues for this UN-related account were approximately USD 29,347.91. We do not allocate expenses to specific client accounts in a way that enables us to calculate net profits with respect to any individual account. UBS AG intends to continue maintaining this account pursuant to the conditions it has established with the Swiss Government and consistent with its Group Sanctions Policy. UBS also maintains a rental surety (effectively a rental security deposit) account in relation to the Government of Iran's UN Mission premises in Geneva; there were no revenues for this account.

As previously reported, UBS had certain outstanding legacy trade finance arrangements issued on behalf of Swiss client exporters in favor of their Iranian counterparties. In February 2012 UBS ceased accepting payments on these outstanding export trade finance arrangements and worked with the Swiss government who insured these contracts (Swiss Export Risk Insurance "SERV"). On December 21, 2012, UBS and the SERV entered into certain Transfer and Assignment Agreements under which SERV purchased all of UBS's remaining receivables under or in connection with Iran-related export finance transactions. Hence, the SERV is the sole beneficiary of said receivables. There was no financial activity involving Iran in connection with these trade finance arrangements in 2019, and no gross revenue or net profit.

In connection with these trade finance arrangements, UBS has maintained one existing account relationship with an Iranian bank. This account was established prior to the US designation of this bank and maintained due to the existing trade finance arrangements. In 2007, following the designation of the bank pursuant to sanctions issued by the US, UN and Switzerland, the account was blocked under Swiss law and remained subject to blocking requirements until January 2016. Client assets as of December 2019 were USD 3,169.92. There have been no transactions involving this account other than in general account fees. The gross revenues to report for 2019 are USD 9.69.

Item 10. Additional Information.
B—Memorandum and Articles of Association.

Please see the Articles of Association of UBS Group AG and of UBS AG (Exhibits 1.1 and 1.2, respectively, to this Form 20-F) and the Organization Regulations of UBS Group AG and UBS AG (Exhibit 1.3 and 1.4, respectively, to this Form 20-F).

Set forth below is a summary of the material provisions of the Articles of Association of UBS Group AG (which we call the "Articles" throughout this document), Organization Regulations of UBS Group AG (which we call the "Organization Regulations" throughout this document) and relevant Swiss laws, in particular the Swiss Code of Obligations, relating to our shares. This description does not purport to be complete and is qualified in its entirety by references to Swiss law, including Swiss company law, and to the Articles and Organization Regulations.

The Articles of Association and Organization Regulations of UBS AG are substantially similar to the Articles and Organization Regulations of UBS Group AG, so the following description applies equally to UBS AG, except where indicated that it refers to only one of the companies.

The principal legislation under which UBS Group AG and UBS AG operate, and under which the ordinary shares of UBS Group AG are issued, is the Swiss Code of Obligations.

The shares are registered shares with a par value of CHF 0.10 per share. The shares are fully paid up, and there is no liability of shareholders to further capital calls by the company. The shares rank *pari passu* in all respects with each other, including voting rights, entitlement to dividends, liquidation proceeds in case of the liquidation of the company, subscription or preemptive rights in the event of a share issue (*Bezugsrechte*) and preemptive rights in the event of the issuance of equity-linked securities (*Vorwegzeichnungsrechte*).

Each share carries one vote at our shareholders' meetings. Voting rights may be exercised only after a shareholder has been recorded in our share register as a shareholder with voting rights. Registration with voting rights is subject to certain restrictions. See "Share Register and Transfer of Shares" below.

The Articles provide that we may elect not to print and deliver certificates in respect of registered shares. Shareholders may, however, following registration in the share register, request at any time that we issue a written statement in respect of their shares; however, the shareholder has no entitlement to the printing and delivery of share certificates.

<u>Shares and Shareholders</u>
Share Register and Transfer of Shares

UBS Group AG's share register is kept by UBS Shareholder Services, P.O. Box, CH-8098 Zurich, Switzerland. Shareholder Services is responsible for the registration of the global shares. It is split into two parts – a Swiss register, which is maintained by UBS Group, acting as Swiss share registrar, and a US register, which is maintained by Computershare Inc., c/o Voluntary Corporate Actions, 250 Royall Street, Suite V, Canton, MA 02021, as US transfer agent ("Computershare").

Swiss law and the Articles of Association of UBS Group AG and UBS AG require UBS to keep a share register in which the names, addresses and nationality (for legal persons, the registered office) of the owners (and beneficial owners) of registered shares are recorded. The main function of the share register is to record shareholders entitled to vote and participate in general meetings, or to assert or exercise other rights related to voting rights.

The transfer of shares which exist in the form of intermediary-held securities is effected by entries in securities accounts in accordance with applicable law. The transfer of uncertificated securities is effected by way of a written declaration of assignment and requires notice to the issuer.

In order to register shares in the share register, a purchaser must file a share registration form with the share register. Failing such registration, the purchaser may not vote at or participate in shareholders' meetings, but will be entitled to dividends, pre-emptive and priority subscription rights, and liquidation proceeds.

Swiss law distinguishes between registration with and without voting rights. Shareholders must be registered in the share register as shareholders with voting rights in order to vote and participate in general meetings or to assert or exercise other rights related to voting rights. A purchaser of shares will be recorded in our share register with voting rights upon disclosure of its name and nationality (and for legal persons, the registered office). However, we may decline a registration with voting rights if the shareholder does not declare that it has acquired the shares in its own name and for its own account. If the shareholder refuses to make such declaration, it will be registered as a shareholder without voting rights.

There is no limitation under Swiss law or our Articles on the right of non-Swiss residents or nationals to own or vote our shares.

General Meeting

Under Swiss law, annual ordinary shareholders' meetings must be held within six months after the end of our financial year, which is 31 December. Shareholders' meetings may be convened by the Board of Directors (BoD) or, if necessary, by the statutory auditors, with twenty-days' advance notice. The BoD is further required to convene an extraordinary shareholders' meeting if so resolved by a shareholders' meeting or if so requested by shareholders holding in aggregate at least 10% of our nominal share capital. Shareholders representing shares with an aggregate par value of at least CHF 62,500 have the right to request that a specific proposal be put on the agenda and voted upon at the next shareholders' meeting. A shareholders' meeting is convened by publishing a notice in the Swiss Official Commercial Gazette (*Schweizerisches Handelsamtsblatt*) at least 20 days prior to such meeting.

The Articles do not require a minimum number of shareholders to be present in order to hold a shareholders' meeting.

Unless otherwise provided by law or the Articles (as indicated in this section), resolutions require the approval of an "absolute majority" of the votes cast at a shareholders' meeting. Shareholders' resolutions requiring a vote by absolute majority include:

- Amendments to the Articles (except for the changes requiring a higher quorum as indicated below);
- Elections of directors, Chairman of the BoD, members of the compensation committee and statutory auditors;
- Election of the independent proxy;
- Approval of the management report and the consolidated financial statements;
- Approval of the annual financial statements and the resolution on the use of the balance sheet profit (declaration of dividend);
- Approval of the compensation for the BoD and the Group Executive Board (GEB) of UBS Group AG, including the approval of the maximum aggregate amount of compensation of the members of the BoD for the period until the next Annual General Meeting (AGM), the maximum aggregate amount of fixed compensation of the GEB members for the following financial year and the aggregate amount of variable compensation of the GEB members for the preceding financial year, with the exception of a supplementary amount of up to 40% of the average of total annual compensation paid or granted to the GEB during the previous three years for persons joining or promoted within the GEB;
- Decisions to discharge directors and management from liability for matters disclosed to the shareholders' meeting; and
- Passing resolutions on matters which are by law or by the Articles reserved to the shareholders' meeting (e.g., the ordering of an independent investigation into the specific matters proposed to the shareholders' meeting).

Under Swiss corporate law, a resolution passed by at least two thirds of votes represented and an absolute majority of the par value of the shares represented is required in order to approve:

- A change in our stated purpose in the Articles;
- The creation of shares with preferential voting rights;
- A restriction on transferability or registration of shares;
- An increase in authorized or contingent capital or the creation of reserve capital in accordance with Swiss banking law;
- An increase in share capital funded by equity capital, against contribution in kind or to fund acquisitions in kind and the granting of special privileges;
- Changes to pre-emptive rights;
- A change of domicile of the corporation; or
- Dissolution of the corporation.

Under the Articles, a resolution passed at a shareholders' meeting with a supermajority of at least two thirds of the votes represented at such meeting is required to:

- Change the limits on BoD size in the Articles;
- Remove one-fourth or more of the members of the BoD; or
- Delete or modify these supermajority requirements.

At shareholders' meetings, a shareholder can be represented by his or her legal representative or under a written power of attorney by another shareholder eligible to vote or, under a written or electronic power of attorney, by the independent proxy. Votes are taken electronically, by written ballot or by a show of hands. Shareholders representing at least 3% of the votes represented may always request that a vote or election take place electronically or by a written ballot.

UBS AG follows the abovementioned statutory quorum rules in lieu of the quorum requirement of Rule 14.10(f)(3) of Bats BZX Exchange, Inc.

Net Profits and Dividends

Swiss law requires that at least 5% of the annual net profits of a corporation must be retained as general reserves until this equals 20% of the corporation's paid-up share capital. Any net profits remaining are at the disposal of the shareholders' meeting, except that, if an annual dividend exceeds 5% of the nominal share capital, then 10% of such excess must be retained as general reserves, unless such corporation qualifies as a holding company.

Under Swiss law, dividends may be paid out only if the corporation has sufficient distributable profits from previous business years or if the reserves of the corporation are sufficient to allow distribution of a dividend. In either event, dividends may be paid out only after approval by the shareholders' meeting. The BoD may propose to the shareholders that a dividend be paid out. The auditors must confirm that the dividend proposal of the BoD conforms with statutory law.

Dividends are usually due and payable after the shareholders' resolution relating to the allocation of profits has been passed. Under Swiss law, the statute of limitations in respect of dividend payments is five years.

Preemptive Rights

Under Swiss law, any share issue, whether for cash or non-cash consideration or for no consideration, is subject to the prior approval of the shareholders' meeting. Shareholders of a Swiss corporation have certain preemptive rights to subscribe for new issues of shares in proportion to the nominal amount of shares held. The Articles or a resolution adopted at a shareholders' meeting with a supermajority of at least two-thirds of the votes represented and an absolute majority of the nominal value of the shares represented at the meeting may, however, limit or suspend preemptive rights in certain limited circumstances.

Disclosure of Principal Shareholders

Under the applicable provisions of the Swiss Financial Market Infrastructure Act, anyone who directly or indirectly or acting in concert with third parties reaches, exceeds or falls below the thresholds of 3%, 5%, 10%, 15%, 20%, 25%, 33 1/3%, 50% or 66 2/3% of the voting rights of a Swiss-listed corporation must notify the corporation and the SIX Swiss Exchange, whether or not the voting rights can be exercised. Following receipt of such notification, the corporation has the obligation to inform the public. The corporation must disclose in the notes to the balance sheet the identity of any shareholders who own in excess of 5% of its shares.

Notices

Notices to shareholders are made by publication in the Swiss Official Gazette of Commerce. The BoD may designate further means of communication for publishing notices to shareholders.

Mandatory Tender Offer

Under the applicable provisions of the Swiss Financial Market Infrastructure Act, anyone who directly or indirectly or acting in concert with third parties acquires more than 33 1/3% of the voting rights of a Swiss-listed company will have to submit a takeover bid to all remaining shareholders. A waiver from the mandatory bid rule may be granted by our supervisory authority. If no waiver is granted, the mandatory takeover bid must be made pursuant to the procedural rules set forth in the Swiss Financial Market Infrastructure Act and implementing ordinances.

<u>Board of Directors</u>
Borrowing Power

Neither Swiss law nor the Articles restrict in any way our power to borrow and raise funds, provided that any such borrowing is entered into on arms'-length terms.

Swiss law requires that the Articles determine the amount of loans that UBS Group AG, as a listed company, may grant to members of its BoD. The Articles restrict UBS Group AG's ability to grant loans to BoD members as follows: First, loans to the independent members of the BoD shall be made in accordance with the customary business and market conditions. Second, loans to the non-independent members of the BoD shall be made in the ordinary course of business on substantially the same terms as those granted to UBS employees. Third, the total amount of such loans shall not exceed CHF 20 million per member.

Conflicts of Interests

Swiss law does not have a general provision on conflicts of interests. However, the Swiss Code of Obligations requires directors and members of senior management to safeguard the interests of the corporation and, as such, imposes a duty of care and a duty of loyalty on directors and officers. This rule is generally understood as disqualifying directors and senior officers from participating in decisions that directly affect them. Directors and officers are personally liable to the corporation for any breach of these provisions. In addition, Swiss law contains a provision under which payments made to a shareholder or a director or any person associated therewith, other than at arm's length, must be repaid to us if the shareholder or director was acting in bad faith.

In addition, our Organization Regulations provide that, subject to exceptional circumstances in which the best interests of UBS dictate that the member of the BoD or senior management with a conflict of interest shall not participate in the discussions and decision-making involving the interest at stake, the member of the BoD or senior management with a conflict of interest shall participate in discussions and a double vote (meaning a vote with and a vote without the conflicted individual) shall take place. A binding decision on the matter requires the same outcome in both votes.

Retirement of Board members

There is no age-limit requirement for retirement of the members of the BoD. The term of office for each Board member is one year, and no Board member may serve for more than 10 consecutive terms of office. In exceptional circumstances the Board can extend this limit.

Executive sessions

UBS AG's Organization Regulations require one-third of the members of the Board of Directors of UBS AG to be independent. While neither Swiss law applicable to UBS AG nor the Organization Regulations require regularly scheduled meetings of UBS AG's independent directors, the Organization Regulations of UBS Group AG require independent members of the Board of Directors of UBS Group AG to meet, without the participation of the Chairman, at least twice a year. All members of UBS Group AG's Board of Directors are also members of UBS AG's Board of Directors and the meetings are held as combined meetings of UBS Group AG and UBS AG's Board of Directors so that they have the same frequency and length for the two companies. As a result, the practice currently in place at UBS AG is that the independent members regularly meet in executive-only sessions.

The Company
Repurchase of Shares

Swiss law limits a corporation's ability to hold or repurchase its own shares. We and our subsidiaries may only repurchase shares if we have sufficient free reserves to pay the purchase price and if the aggregate nominal value of the shares does not exceed 10% of our nominal share capital. Furthermore, such own shares must be disclosed as negative items in our shareholders' equity. Such shares held by us or our subsidiaries do not carry any rights to vote at shareholders' meetings.

Sinking fund provisions
There are no provisions in the Swiss law or in the Articles requiring the company to put resources aside for the exclusive purpose of redeeming bonds or repurchasing shares.

Registration and Business Purpose

UBS Group AG was incorporated and registered as a corporation limited by shares (*Aktiengesellschaft*) under the laws of Switzerland. UBS Group AG was entered into the commercial register of Canton Zurich on 10 June 2014 under the registration number CHE-395.345.924 and has its registered domicile in Zurich, Switzerland. The business purpose of UBS Group AG, as set forth in article 2 of its Articles, is the acquisition, holding, management and sale of direct and indirect participations in enterprises of any kind, in particular in the area of banking, financial, advisory, trading and service activities in Switzerland and abroad. UBS Group may establish enterprises of any kind in Switzerland and abroad, hold equity interests in these companies, and conduct their management. UBS Group is authorized to acquire, mortgage and sell real estate and building rights in Switzerland and abroad. UBS Group may provide loans, guarantees and other types of financing and security for group companies and borrow and invest capital on the money and capital markets.

UBS AG was incorporated and registered as a corporation limited by shares (*Aktiengesellschaft*) under the laws of Switzerland. It is entered into the commercial registers of Canton Zurich and Canton Basel-City under the registration number CHE-101.329.561 and has registered domiciles in Zurich and Basel, Switzerland. The business purpose of UBS AG, as set forth in article 2 of its Articles of Association, is the operation of a bank, with a scope of operations extending to all types of banking, financial, advisory, trading and service activities in Switzerland and abroad. UBS AG is a wholly owned subsidiary of UBS Group AG.

Duration and Liquidation

UBS Group AG and UBS AG have unlimited duration.

Under Swiss law, we may be dissolved at any time by a shareholders' resolution which must be passed by a supermajority of at least two-thirds of the votes represented and an absolute majority of the nominal value of the shares represented at the meeting. Dissolution by law or court order is possible, for example, if we become bankrupt.

Under Swiss law, any surplus arising out of a liquidation (after the settlement of all claims of all creditors) is distributed to shareholders in proportion to the paid-up nominal value of shares held.

Other

Ernst & Young Ltd, Aeschengraben 9, CH-4051 Basel, Switzerland, have been appointed as statutory auditors and as auditors of the consolidated accounts of both UBS Group AG and UBS AG. The auditors are subject to election by the shareholders at the ordinary general meeting on an annual basis.

E—Taxation.

This section outlines the material Swiss tax and US federal income tax consequences of the ownership of UBS Group AG's ordinary shares (defined as "UBS ordinary shares " in this section) by a US holder (as defined below) who holds UBS ordinary shares as capital assets. This discussion addresses only US federal income taxation and Swiss income and capital taxation and does not discuss all of the tax consequences that may be relevant to holders in light of their individual circumstances, including other foreign tax consequences, state or local tax consequences, estate and gift tax consequences, and tax consequences arising under the Medicare contribution tax on net investment income or the alternative minimum tax. It is designed to explain the major interactions between Swiss and US taxation for US persons who hold UBS ordinary shares.

The discussion does not address the tax consequences to persons who hold UBS ordinary shares in particular circumstances, such as tax-exempt entities, banks, financial institutions, life insurance companies, broker-dealers, traders in securities that elect to use a mark-to-market method of accounting for securities holdings, holders that actually or constructively own 10% or more of the total combined voting power of the voting stock of UBS Group AG or of the total value of stock of UBS Group AG, holders that hold UBS ordinary shares as part of a straddle or a hedging or conversion transaction, holders that purchase or sell UBS ordinary shares as part of a wash sale for tax purposes or holders whose functional currency for US tax purposes is not the US dollar. This discussion also does not apply to holders who acquired their UBS ordinary shares through a tax-qualified retirement plan, nor generally to unvested UBS ordinary shares held under deferred compensation arrangements.

If a partnership (or other entity treated as a partnership) holds UBS ordinary shares, the US federal income tax treatment of a partner will generally depend on the status of the partner and the tax treatment of the partnership. A partner in a partnership holding the UBS ordinary shares should consult its tax advisor with regard to the US federal income tax treatment of an investment in the ordinary shares.

The discussion is based on the tax laws of Switzerland and the United States, including the US Internal Revenue Code of 1986, as amended, its legislative history, existing and proposed regulations under the Internal Revenue Code, published rulings and court decisions, as in effect on the date of this document, as well as the Convention between the United States of America and the Swiss Confederation for the Avoidance of Double Taxation with Respect to Taxes on Income, which we call the “Treaty,” all of which may be subject to change or change in interpretation, possibly with retroactive effect.

For purposes of this discussion, a “US holder” is any beneficial owner of UBS ordinary shares that is for US federal income tax purposes:

- A citizen or resident of the United States;
- A domestic corporation or other entity taxable as a corporation;
- An estate, the income of which is subject to US federal income tax without regard to its source; or
- A trust, if a court within the United States is able to exercise primary supervision over the administration of the trust and one or more US persons have the authority to control all substantial decisions of the trust.

Holders of UBS ordinary shares are urged to consult their tax advisors regarding the US federal, state and local and the Swiss and other tax consequences of owning and disposing of these shares in their particular circumstances.

(a) Ownership of UBS Ordinary Shares - Swiss Taxation

Dividends and Distributions
Dividends paid by UBS Group AG to a holder of UBS ordinary shares (including dividends on liquidation proceeds and stock dividends) are in principle subject to a Swiss federal withholding tax at a rate of 35%.

Under the Capital Contribution Principle, the repayment of capital contributions, including share premiums made by the shareholders after December 31, 1996 is in principle no longer subject to Swiss withholding tax if certain requirements regarding the booking of these capital contributions are met.

The Swiss Withholding Tax Act was amended. Since 1 January 2020 Swiss companies listed on a Swiss stock exchange such as UBS Group AG can repay reserves from capital contributions to their shareholders without deduction of Swiss withholding tax only if they distribute at least the same amount of taxable dividends. For this reason UBS Group AG pays half of the dividend from capital contribution reserves and half of the dividend from taxable dividends which is subject to 35% Swiss withholding tax.

A US holder that qualifies for Treaty benefits may apply for a refund of the withholding tax withheld in excess of the 15% Treaty rate (or for a full refund in case of qualifying retirement arrangements). The claim for refund must be filed with the Swiss Federal Tax Administration, Eigerstrasse 65, CH-3003 Berne, Switzerland no later than December 31 of the third year following the end of the calendar year in which the income subject to withholding was due. The form used for obtaining a refund is Swiss Tax Form 82 (82 C for companies; 82 E for other entities; 82 I for individuals; 82 R for regulated investment companies), which may be obtained from the Swiss Federal Tax Administration at the address above or downloaded from the web page of the Swiss Federal tax Administration. The form must be filled out in triplicate with each copy duly completed and signed before a notary public in the United States. The form must be accompanied by evidence of the deduction of withholding tax withheld at the source.

Transfers of UBS Ordinary Shares
The purchase or sale of UBS ordinary shares, whether by Swiss resident or non-resident holders (including US holders), may be subject to a Swiss securities transfer stamp duty of up to 0.15% calculated on the purchase price or sale proceeds if it occurs through or with a bank or other securities dealer as defined in the Swiss Federal Stamp Tax Act in Switzerland or the Principality of Liechtenstein. In addition to the stamp duty, the sale of UBS ordinary shares by or through a member of a recognized stock exchange may be subject to a stock exchange levy.

Capital gains realized by a US holder upon the sale of UBS ordinary shares are not subject to Swiss income or gains taxes, unless such US holder holds such shares as business assets of a Swiss business operation qualifying as a permanent establishment for the purposes of the Treaty. In the latter case, gains are taxed at ordinary Swiss individual or corporate income tax rates, as the case may be, and losses are deductible for purposes of Swiss income taxes.

(b) Ownership of UBS Ordinary Shares - US Federal Income Taxation

The tax treatment of the UBS ordinary shares will depend in part on whether or not UBS Group AG is classified as a passive foreign investment company, or PFIC, for US federal income tax purposes. Except as discussed below under "—Passive Foreign Investment Company (PFIC) Rules", this discussion assumes that UBS Group AG is not classified as a PFIC for United States federal income tax purposes.

Dividends and Distributions
A US holder will include in gross income and treat as a dividend the gross amount of any distribution paid, before reduction for Swiss withholding taxes, by UBS Group AG out of its current or accumulated earnings and profits (as determined for US federal income tax purposes), other than certain pro-rata distributions of UBS ordinary shares, when the distribution is actually or constructively received by the US holder. Distributions in excess of current and accumulated earnings and profits (as determined for US federal income tax purposes) will be treated as a return of capital to the extent of the US holder's basis in its UBS ordinary shares and thereafter as capital gain. However, UBS Group AG does not expect to calculate earnings and profits in accordance with US federal income tax principles. Accordingly, a US holder should expect to generally treat distributions we make on UBS ordinary shares as dividends.

Dividends paid to a noncorporate US holder that constitute qualified dividend income will be taxable to the holder at preferential rates, provided that the holder has a holding period in the shares of more than 60 days during the 121-day period beginning 60 days before the ex-dividend date and meets other holding period requirements. Dividends paid by UBS Group AG with respect to the ordinary shares will generally be qualified as dividend income provided that, in the year that the US holder receives the dividend, the UBS ordinary shares are readily tradable on an established securities market in the United States. The UBS ordinary shares are listed on the New York Stock Exchange, and UBS Group AG therefore expects that dividends will be qualified dividend income.

For US federal income tax purposes, a dividend will include a distribution characterized under Swiss law as a repayment of capital contributions if the distribution is made out of current or accumulated earnings and profits, as described above.

Dividends will generally be income from sources outside the United States for foreign tax credit limitation purposes, and will generally be "passive" income for purposes of computing the foreign tax credit allowable to the holder. However, if (a) we are 50% or more owned, by vote or value, by US persons and (b) at least 10% of our earnings and profits are attributable to sources within the US, then for foreign tax credit purposes, a portion of our dividends would be treated as derived from sources within the US. With respect to any dividend paid for any taxable year, the US source ratio of our dividends for foreign tax credit purposes would be equal to the portion of our earnings and profits from sources within the United States for such taxable year, divided by the total amount of our earnings and profits for such taxable year. Special rules apply in determining the foreign tax credit limitation with respect to dividends that are subject to preferential rates. The dividend will not be eligible for the dividends-received deduction generally allowed to US corporations in respect of dividends received from other US corporations.

The amount of the dividend distribution included in income of a US holder will be the US dollar value of the Swiss franc payments made, determined at the spot Swiss franc/US dollar rate on the date such dividend distribution is includible in the income of the US holder, regardless of whether the payment is in fact converted into US dollars. Generally, any gain or loss resulting from currency exchange fluctuations during the period from the date the dividend payment is included in income to the date such dividend payment is converted into US dollars will be treated as ordinary income or loss and will not be eligible for the special tax rate applicable to qualified dividend income. Such gain or loss will generally be income or loss from sources within the United States for foreign tax credit limitation purposes.

Subject to US foreign tax credit limitations, the nonrefundable Swiss tax withheld and paid over to Switzerland will be creditable or deductible against the US holder's US federal income tax liability. To the extent a reduction or refund of the tax withheld is available to a US holder under the laws of Switzerland or under the Treaty, the amount of tax withheld that is refundable will not be eligible for credit against the US holder's US federal income tax liability, whether or not the refund is actually obtained. See "(a) Ownership of UBS Ordinary Shares – Swiss Taxation" above, for the procedures for obtaining a tax refund.

Transfers of UBS Ordinary Shares
A US holder that sells or otherwise disposes of UBS ordinary shares generally will recognize capital gain or loss for US federal income tax purposes equal to the difference between the US dollar value of the amount realized and its tax basis, determined in US dollars, in such UBS ordinary shares. Capital gain of a non-corporate US holder is generally taxed at preferential rates if the UBS ordinary shares were held for more than one year. The gain or loss will generally be income or loss from sources within the United States for foreign tax credit limitation purposes. A US holder will not be allowed a foreign tax credit in respect of any stamp duty or stock exchange levy that is imposed upon a transfer of UBS ordinary shares.

Passive Foreign Investment Company (PFIC) Rules
UBS Group AG believes that UBS ordinary shares should not currently be treated as stock of a PFIC for US federal income tax purposes, and does not expect to become a PFIC in the foreseeable future. However, this conclusion is a factual determination made annually and thus may be subject to change. It is therefore possible that UBS Group AG could become a PFIC in a future taxable year. In general, UBS Group AG will be a PFIC with respect to a US holder if, for any taxable year in which the US holder held UBS ordinary shares, either (i) at least 75% of the gross income of UBS Group AG for the taxable year is passive income or (ii) at least 50% of the value, determined on the basis of a quarterly average, of UBS's assets is attributable to assets that produce or are held for the production of passive income (including cash). If UBS Group AG were to be treated as a PFIC, gain realized on the sale or other disposition of UBS ordinary shares would in general not be treated as capital gain. Instead, unless a US holder elects to be taxed annually on a mark-to-market basis with respect to its UBS ordinary shares, such gain and certain "excess distributions" would be treated as having been realized ratably over the holder's holding period for the shares and generally would be taxed at the highest tax rate in effect for each such year to which the gain was allocated, together with an interest charge in respect of the tax attributable to each such year. With certain exceptions, a holder's UBS ordinary shares will be treated as stock in a PFIC if UBS Group AG was a PFIC at any time during the holder's holding period in the UBS ordinary shares. In addition, dividends received from UBS Group AG would not be eligible for the preferential tax rate applicable to qualified dividend income if UBS Group AG were to be treated as a PFIC either in the taxable year of the distribution or the preceding taxable year, but would instead be taxable at rates applicable to ordinary income.

Item 19. Exhibits.

Exhibit number	Description
1.1	Articles of Association of UBS Group AG dated 5 March 2019.
1.2	Articles of Association of UBS AG dated 26 April 2018.
1.3	Organization Regulations of UBS Group AG dated 1 May 2019.
1.4	Organization Regulations of UBS AG dated 1 May 2019.
2(b)	Instruments defining the rights of the holders of long-term debt issued by UBS Group AG and its subsidiaries. We agree to furnish to the SEC upon request, copies of the instruments, including indentures, defining the rights of the holders of our long-term debt and of our subsidiaries' long-term debt.
2(d)	Description of securities registered under Section 12 or the Securities Exchange Act of 1934
4.1	Fiscal agency agreement dated 17 August 2012 between UBS AG, acting through its Stamford Branch, and U.S. Bank N.A. (Incorporated by reference to Exhibit 4.2 to UBS AG's Annual Report on Form 20-F for the fiscal year ended December 31, 2012)
4.2	Terms and Conditions of Tier 2 Subordinated Notes of UBS AG due 12 February 2026, issued 13 February 2014. (Incorporated by reference to Exhibit 4.3 to UBS AG's Annual Report on Form 20-F for the fiscal year ended December 31, 2013)
4.3	Terms and Conditions of Tier 2 Subordinated Notes of UBS AG due 2024, issued 15 May 2014. (Incorporated by reference to Exhibit 4.3 to UBS AG's Annual Report on Form 20-F for the fiscal year ended December 31, 2014)
4.4	Terms and Conditions of USD 1.25 billion 7% Tier 1 Subordinated Notes issued by UBS Group AG on 19 February 2015. (Incorporated by reference to Exhibit 4.4 to UBS AG's Annual Report on Form 20-F for the fiscal year ended December 31, 2014)
4.5	Terms and Conditions of EUR 1 billion 5.75% Tier 1 Subordinated Notes issued by UBS Group AG on 19 February 2015. (Incorporated by reference to Exhibit 4.6 to UBS AG's Annual Report on Form 20-F for the fiscal year ended December 31, 2014)
4.6	Terms and Conditions of additional Tier 1 capital instruments issued pursuant to the Deferred Contingent Capital Plan 2014/15. (Incorporated by reference to Exhibit 4.9 to UBS's Annual Report on Form 20-F for the fiscal year ended December 31, 2017)
4.7	Terms and Conditions of USD 1.575 billion Tier 1 Subordinated Notes issued by UBS Group AG on 7 August 2015. (Incorporated by reference to Exhibit 4.8 to UBS's Annual Report on Form 20-F for the fiscal year ended December 31, 2015)
4.8	Terms and Conditions of additional Tier 1 capital instruments issued pursuant to the Deferred Contingent Capital Plan 2015/16. (Incorporated by reference to Exhibit 4.11 to UBS's Annual Report on Form 20-F for the fiscal year ended December 31, 2017)
4.9	Terms and Conditions of USD 1.5 billion 6.875% Tier 1 Subordinated Notes issued by UBS Group AG on 21 March 2016. (Incorporated by reference to Exhibit 4.10 to UBS's Annual Report on Form 20-F for the fiscal year ended December 31, 2016)
4.10	Terms and Conditions of USD 1.1 billion 7.125% Tier 1 Subordinated Notes issued by UBS Group AG on 10 August 2016. (Incorporated by reference to Exhibit 4.11 to UBS's Annual Report on Form 20-F for the fiscal year ended December 31, 2016)
4.11	Terms and Conditions of additional Tier 1 capital instruments issued pursuant to the Deferred Contingent Capital Plan 2016/17. (Incorporated by reference to Exhibit 4.14 to UBS's Annual Report on Form 20-F for the fiscal year ended December 31, 2017)
4.12	Terms and Conditions of additional Tier 1 capital instruments issued pursuant to the Deferred Contingent Capital Plan 2017/18. (Incorporated by reference to Exhibit 4.15 to UBS's Annual Report on Form 20-F for the fiscal year ended December 31, 2017)

4.13	Terms and Conditions of USD 2 billion 5.0% Tier 1 Subordinated Notes issued on 31 January 2018 by UBS Group AG (originally issued by UBS Group Funding (Switzerland) AG and guaranteed by UBS Group AG, migrated to UBS Group AG as issuer on 11 October 2019). (Incorporated by reference to Exhibit 4.16 to UBS's Annual Report on Form 20-F for the fiscal year ended December 31, 2017)
4.14	Terms and Conditions of SGD 700 million 5.875% Tier 1 Subordinated Notes issued on 28 November 2018 by UBS Group AG (originally issued by UBS Group Funding (Switzerland) AG and guaranteed by UBS Group AG, migrated to UBS Group AG as issuer on 11 October 2019). (Incorporated by reference to Exhibit 4.17 to UBS's Annual Report on Form 20-F for the fiscal year ended December 31, 2018)
4.15	Terms and Conditions of USD 2.5 billion 7.00% Tier 1 Subordinated Notes issued on 31 January 2019 by UBS Group AG (originally issued by UBS Group Funding (Switzerland) AG and guaranteed by UBS Group AG, migrated to UBS Group AG as issuer on 11 October 2019). (Incorporated by reference to Exhibit 4.18 to UBS's Annual Report on Form 20-F for the fiscal year ended December 31, 2018)
4.16	Terms and Conditions of additional Tier 1 capital instruments issued pursuant to the Deferred Contingent Capital Plan 2018/19. (Incorporated by reference to Exhibit 4.19 to UBS's Annual Report on Form 20-F for the fiscal year ended December 31, 2018)
4.17	Terms and Conditions of AUD 700 million 4.375% Tier 1 Subordinated Notes issued on 27 August 2019 by UBS Group AG.
4.18	Terms and Conditions of SGD 750 million 4.85% Tier 1 Subordinated Notes issued on 04 September 2019 by UBS Group AG.
4.19	Terms and Conditions of CHF 275 million 3.00% Tier 1 Subordinated Notes issued on 13 November 2019 by UBS Group AG.
4.20	Commodity Futures Trading Commission Order Instituting Proceedings Pursuant to Section 6(c)(4)(A) and 6(d) of the Commodity Exchange Act, Making Findings, and Imposing Remedial Sanctions, dated November 11, 2014. (Incorporated by reference to Exhibit 4.10 to UBS's Annual Report on Form 20-F for the fiscal year ended December 31, 2015)
4.21	Financial Conduct Authority Final Notice issued 11 November 2014. (Incorporated by reference to Exhibit 4.11 to UBS's Annual Report on Form 20-F for the fiscal year ended December 31, 2015)
4.22	Swiss Financial Market Supervisory Authority Report on Foreign Exchange Trading at UBS AG dated 12 November 2014. (Incorporated by reference to Exhibit 4.12 to UBS's Annual Report on Form 20-F for the fiscal year ended December 31, 2015)
4.23	Plea Agreement between the Criminal Division of the US Department of Justice and UBS AG dated May 20, 2015. (Incorporated by reference to Exhibit 4.13 to UBS's Annual Report on Form 20-F for the fiscal year ended December 31, 2015)
4.24	Board of Governors of the Federal Reserve System and State of Connecticut Department of Banking Order to Cease and Desist and Order of Assessment of a Civil Money Penalty Issued Upon Consent Pursuant to the Federal Deposit Insurance Act, as Amended, dated May 20, 2015. (Incorporated by reference to Exhibit 4.14 to UBS's Annual Report on Form 20-F for the fiscal year ended December 31, 2015)
4.25	Asset Transfer Agreement between UBS AG and UBS Switzerland AG dated 12 June 2015. (Incorporated by reference to Form 6-K of UBS AG filed on June 17, 2015)
8	Significant Subsidiaries of UBS Group AG. Please see Note 31 to each set of Financial Statements (*Interests in subsidiaries and other entities),* on pages 458-463 and 645-650 of the Annual Report.
12	The certifications required by Rule 13(a)-14(a) (17 CFR 240.13a-14(a)).
13	The certifications required by Rule 13(a)-14(b) (17 CFR 240.13a-14(b)) and Section 1350 of Chapter 63 of Title 18 of the U.S. Code (18 U.S.C. 1350).
15.1	Consent of Ernst & Young Ltd. with respect to UBS Group AG.
15.2	Consent of Ernst & Young Ltd. with respect to UBS AG.
101	Interactive Data Files (sections of the Annual Report formatted in XBRL (Extensible Business Reporting Language)). Furnished electronically herewith.

SIGNATURES

The registrants hereby certify that they meet all of the requirements for filing on Form 20-F and that they have duly caused the undersigned to sign this annual report on their behalf.

UBS Group AG

_/s/ Sergio Ermotti_______________
Name: Sergio Ermotti
Title: Group Chief Executive Officer

_/s/ Kirt Gardner__________________
Name: Kirt Gardner
Title: Group Chief Financial Officer

_/s/ Todd Tuckner_________________
Name: Todd Tuckner
Title: Group Controller and Chief Accounting Officer

UBS AG

_/s/ Sergio Ermotti________________
Name: Sergio Ermotti
Title: President of the Executive Board

_/s/ Kirt Gardner__________________
Name: Kirt Gardner
Title: Chief Financial Officer

_/s/ Todd Tuckner_________________
Name: Todd Tuckner
Title: Group Controller and Chief Accounting Officer

Date: March 3, 2020

UBS Group AG and UBS AG

Annual Report 2019

Our external reporting approach

The scope and content of our external reports are determined by Swiss legal and regulatory requirements, accounting standards, relevant stock and debt listing rules, including regulations promulgated by FINMA, the SIX Swiss Exchange, the US Securities and Exchange Commission and other regulatory requirements, as well as by our financial reporting policies.

At the center of our external reporting approach is the annual report of UBS Group AG, which consists of disclosures for UBS Group AG and its consolidated subsidiaries. We also provide a combined annual report for UBS Group AG and UBS AG consolidated, which additionally includes the consolidated financial statements of UBS AG as well as supplemental disclosures required under SEC regulations and is the basis for our SEC Form 20-F filing.

Annual reporting

UBS Annual Reports
The 2019 Annual Reports (UBS Group AG Annual Report 2019 and the combined UBS Group AG and UBS AG Annual Report 2019) include the consolidated financial statements of UBS Group AG and UBS AG, respectively, and provide comprehensive information about our firm, including our strategy and businesses, financial and operating performance and other key information. The reports are presented in US dollars, our presentation currency. The UBS Group AG Annual Report 2019 is translated into German, with the German translation available as of 13 March 2020 under "Annual reporting" at *www.ubs.com/investors.*

The consolidated financial statements of UBS Group AG and UBS AG have been prepared in accordance with International Financial Reporting Standards (IFRS). The risk, treasury and capital management sections include certain audited financial information, which forms part of the consolidated financial statements. The Annual Reports also include the statutory financial statements of UBS Group AG, which are the basis for our Swiss tax return, our appropriation of retained earnings and a potential distribution of dividends, subject to shareholder approval at the Annual General Meeting.

We provide our combined Annual Report, the Pillar 3 report, the standalone legal entity reports and the sustainability report as web disclosures at *www.ubs.com/investors.*

Pillar 3 report
The Pillar 3 report provides detailed quantitative and qualitative information about risk, capital, leverage and liquidity for the UBS Group and prudential key figures and regulatory information for UBS AG standalone, UBS Switzerland AG standalone, UBS Europe SE consolidated and UBS Americas Holding LLC consolidated.

Standalone legal entity reports
We publish separate standalone legal entity reports for UBS AG and UBS Switzerland AG. Selected financial and regulatory key figures for these entities as well as for UBS Europe SE and UBS Americas Holding LLC are also included in our annual reports.

Sustainability report
The sustainability report (formerly called the GRI Document), which will be available from 5 March 2020, provides disclosures on environmental, social and governance factors for the UBS Group and includes the disclosures of non-financial information required by German law implementing EU Directive 2014/95 (CSR-Richtlinie-Umsetzungsgesetz, CSR-RUG).

Our Pillars are the foundation for everything we do.

Capital strength
Efficiency and effectiveness
Risk management

Our Principles are what we stand for as a firm.

Client focus
Excellence
Sustainable performance

Our Behaviors are what we stand for individually.

Integrity
Collaboration
Challenge

Our approach to long-term value creation

As of or for the year ended 31 December 2019

What we put into the equation

Input

Financial capital

- Common equity tier 1 (CET1) capital ratio: 13.7%
- CET1 leverage ratio: 3.9%
- Going concern leverage ratio: 5.7%
- Total loss-absorbing capacity: USD 89.6 billion
- CET1 capital: USD 35.6 billion

Relationships and intellectual capital

- Strong brand with over 150 years of experience in banking
- Presence in all major financial centers worldwide
- Strong culture and strategy based on our Pillars, Principles and Behaviors
- We have access to the majority of the world's billionaires
- We spent more than 10% of our revenues (around USD 3.5 billion) on technology in 2019, including amounts spent on regulatory change programs and innovative solutions for our businesses and clients

Human capital

- We foster a corporate culture that supports and engages employees
- Our 69,966 employees (by headcount) work in 50 countries, are citizens of 136 nations and speak more than 150 languages
- 39% women and 61% men, with an average of 8 years of service
- 19% under 30 years old, 60% between 30 and 50, and 21% over 50 years old

Social and natural capital

- Our UBS in society organization focuses our firm on being a force for driving positive change in society and the environment
- Our comprehensive environmental and social risk standards govern client and vendor relationships and are enforced firm-wide
- We invest in communities: our employees have valuable skills and knowledge, which they use to make a difference in their communities
- UBS Optimus Foundation is an award-winning grant-making foundation that helps our clients use their wealth to drive positive and sustainable social change for children
- We regularly contribute to debates about important societal topics and, in collaboration with other firms and industry bodies, help to set standards on these topics

What we do

Business activities

Catalyst: digitalization and innovation

ABCDE (automation, un-bundling, cloud, data, experience) trends drive the changes in how we operate

Modernizing and modularizing technical estates leveraging new technologies, such as public cloud, microservices architecture, APIs, and front-to-back automation

The results we deliver

Output

Investors

- Net profit attributable to shareholders: USD 4,304 million
- Diluted earnings per share: USD 1.14
- Return on CET1 capital: 12.4% (with a target of 12–15% for 2020–2022)
- Invested assets: USD 3,607 billion
- Cost / income ratio was 80.5%, compared with 79.9% in 2018. We are targeting a cost / income ratio of 75–78% in 2020–2022.

Clients

- We build and strengthen client relationships through various platforms and offerings, such as UBS Evidence Lab Innovations, GWM platforms and WM Online portal, UBS Partner, we trade, UBS Atrium and Mobile Banking
- A broad range of well-designed products and services for clients' personal wealth and their businesses
- Effective procedures and processes to handle complaints

Asset Management

Investment Bank

Employees

- We are committed to further increasing our diversity, treating our employees fairly and providing equal opportunities for all
- We strive to hire, promote and retain more women across the firm, with a stated aspiration of increasing the representation of women in management roles to one-third
- Our in-house UBS University offers customized training and skills development opportunities
- We support employees' career growth; our new Career Navigator online platform supports the mobility of internal talent
- Modern cloud-enabled virtual workstations and mobile technologies have been deployed

Society and environment

- USD 488.5 billion of sustainable investing assets (13.5% of our total invested assets). USD 3.9 billion of clients' assets in SDG-related impact investments
- With a market share of 20.2% among asset and wealth managers offering sustainable investment solutions, we are a leading provider of such products in Switzerland
- USD 52.7 billion of the total deal value in equity or debt capital market services and USD 34.5 billion in financial advisory services provided by our Investment Bank to companies that make a positive contribution to climate change mitigation and adaptation
- In 2019, we donated USD 45.2 million to local programs. 38% of our employees volunteered and invested 202,784 hours in community projects
- UBS Optimus Foundation raised USD 89.5 million in donations

Co-developing digital innovation and ecosystems through partnerships, research and innovation pipeline management, facilitated by centers of excellence

Strengthening our digital culture and engineering approach through training, communications, and adopting new toolsets and agile ways of collaborating

How our stakeholders benefit

Outcome

[illegible]

- Attractive capital returns to our shareholders. A dividend of USD 0.73 per share proposed for the financial year 2019. We aim to increase our ordinary dividend per share by USD 0.01 per year, and to return excess capital through share repurchases.
- Total payout ratio for 2019 will be 80%, combining the proposed dividend with our share repurchases of USD 806 million in 2019.
- We aim to balance growth opportunities with cost and capital efficiency in order to drive attractive risk-adjusted returns and sustainable performance.

[illegible]

- Sustaining long-term relationships based on mutual respect, trust and integrity. Access to outstanding, tailored advice, financial solutions and services from around the globe delivered by experts our clients can trust; superior investment performance.
- Improved satisfaction through the offering of suitable products and services.
- Services accessible through convenient digital banking portals, which enable our clients to bank at their convenience, and through our branches and presences in Switzerland and abroad.

[illegible]

- UBS is widely recognized as an employer of choice and a great place to build a career.
- Levels of employee satisfaction and engagement, as shown in our most recent employee survey, are above the norm for financial services organizations.
- A diverse and inclusive culture across the firm to drive sustainable growth and innovation and to build a better place to work for all employees.
- Support for leadership development, as great leaders are the key to growing our people, client relationships and results.
- Pay for performance, with a strong commitment to pay equity embedded into our compensation policies and practices.

[illegible]

- Total reduction of greenhouse gas footprint by 71% from the 2004 baseline year, targeting a 75% reduction by the end of 2020.
- We further reduced our carbon-related assets to less than 1% of our total banking products exposure and strengthened our standards in the energy and utilities sectors.
- More than 280,000 direct beneficiaries and 107,388 lives substantially improved as a result of our community investments.
- UBS Optimus Foundation committed USD 109.5 million to carefully selected programs.
- The well-being of 3.3 million vulnerable children around the world was improved with help of the work of UBS Optimus Foundation.

The impact we create

Impact

Driving change in the world needs leadership. As the largest truly global wealth manager, we have a responsibility to take a leading role in shaping a positive future – for all of us and the generations to come.

We are an integral part of the Swiss economy and broader society – not only as a leading universal bank, but also as the third biggest private employer and one of the top taxpayers.

We significantly contribute to the prosperity of the Swiss economy by providing efficient financial services, capital allocation, stability, security and reliability.

We aim to protect and increase the value of our clients' assets. Understanding our clients' needs and expectations allows us to serve their best interests and to create value for them.

In sustainable and impact investing, we set standards across the industry and constantly challenge ourselves and our peers to raise the bar.

Contents

Dear Shareholders,

Building on your positive feedback from the previous years, our shareholder letter for 2019 again answers a series of questions that we are regularly asked by different stakeholders of the bank.

What was the market context in 2019?
Even though equity markets reached all-time highs, sharp changes in macroeconomic and market conditions affected UBS and our clients. Interest rate headwinds intensified, with rate cuts in the US and further moves into negative territory in Europe. Contrary to more optimistic expectations at the start of the year, global GDP growth of just 3% was both substantially lower than had been forecast and the lowest since the 2007–2009 financial crisis. Faced with slowing global growth and persistent geopolitical concerns, many clients either de-risked, or simply stayed on the sidelines. Client activity was also negatively affected by historically low market volatility. Nevertheless, recession concerns abated in the US and investor sentiment improved in the final quarter.

How do you assess the financial performance of the Group in 2019?
In these mixed conditions we delivered a solid performance in 2019, closing the year with the best fourth quarter since 2010. Our net profit reached USD 4.3 billion and we delivered a 12.4% return on CET1 capital, competitive with American peers and well ahead of other large European banks. Clients continued to turn to us for high-quality advice and solutions to help them achieve their goals. We now manage over USD 3.6 trillion of their assets, up nearly a trillion in four years. Our capital position remains formidable, with a CET1 capital ratio of 13.7%. Our total loss-absorbing capacity increased to nearly USD 90 billion.

How much of your profits did you return to shareholders last year?
In 2019, we generated USD 5 billion of capital, bringing the total to USD 28 billion since 2011. Our proposed dividend of USD 0.73 per share for 2019 represents an increase of 6% compared with 2018 and is in addition to the USD 806 million of shares bought back under our repurchase program, helping increase our tangible book value per share by 6%. The sum of our 2019 proposed dividend and share repurchases is USD 3.4 billion, or 80% of our net profits, which is highly attractive compared to peers.

What actions are you taking in the French litigation case?
Management and the Board of Directors are completely focused on and committed to a resolution of the French cross-border matter. This is in the best interest of shareholders, and it will most likely take time to resolve the case. The trial at the Court of Appeal is scheduled for 2–29 June 2020, and a verdict is expected later in the year. We are preparing diligently for this trial. UBS denies any criminal wrongdoing in this case. Our provision for this matter remains at EUR 450 million (USD 505 million), unchanged from year-end 2018. We have published responses to questions frequently asked by shareholders, clients, employees and other stakeholders on this matter, which are available at *www.ubs.com/investors*.

What are the key growth opportunities you see going forward?
We are ideally positioned to take advantage of global mega-trends. As the largest truly global wealth manager to high net worth and ultra-high net worth clients, we are well positioned to benefit from these trends. Our business is based on wealth creation and helping clients manage their wealth and fulfil their goals, as well as advising on how they want to pass it on. Our billionaires report revealed that approximately 723 billionaires will transfer USD 3.5 trillion to their heirs over the next two decades. We have a strong presence in the US and Asia – two leading growth markets – along with the right people, the right investments in technology, and the capital strength to lead the wealth management industry. We are also a leading universal bank in Switzerland and we are determined to extend our lead. All this is enhanced by an investment bank that is strong in the areas where we choose to compete, and a successful asset manager.

We are delivering attractive returns in a responsible and sustainable way, while strategically investing for growth. Joint ventures, cross-selling and white-labelling are other growth opportunities. Examples in 2019 include exciting strategic partnerships with leading market players – Banco do Brasil in Brazil and Sumitomo Mitsui Trust in Japan. These are just some of the opportunities across our businesses that we are focused on. There are many others that you can read about in the pages of our annual report.

Sergio P. Ermotti Group Chief Executive Officer **Axel A. Weber** Chairman of the Board of Directors

What are your priorities for 2020–2022?
We aim to drive higher and superior returns by growing each of our businesses and leveraging our unique, integrated and complementary business portfolio and geographic footprint. We have defined a number of priorities to help us achieve this in 2020–2022.

In Global Wealth Management, we will execute on several initiatives designed to accelerate our growth and elevate the quality and value of the service we deliver to our clients.

Our Investment Bank is well positioned to respond to changing market conditions and client needs and to better leverage our capabilities, including the technology investments we have made over the years.

Our Asset Management business will continue to build on its differentiated client offering for further growth, performance and scale.

In our Personal & Corporate Banking business in Switzerland, we will drive profitable growth through digital initiatives, services and efficiency gains.

Our business divisions are competitive in those fields that matter most to our clients, but they would not be as successful on a stand-alone basis. Therefore, a key priority is further embedding our one-firm approach across the Group. While we have successfully delivered our integrated business model for the benefit of many clients and shareholders, we can do more. We also remain committed to improving efficiency and productivity in 2020, keeping operating costs flat, while growing revenues and funding USD 1 billion in investments to meet regulatory requirements and improve efficiency. Continued investments in technology, platforms and risk management systems are crucial for growing our franchise, generating attractive returns in the future and improving client experience.

What are you doing to make sure UBS remains the most relevant global wealth manager?
Client needs are constantly evolving, and the pace of change is faster than ever. What has not and will not change is clients' need for high-quality advice. This is where UBS excels and what makes our value proposition durable. We provide customized, nuanced, and personalized advice that helps our clients meet their individual financial goals, while improving their lives and generating impact that matters. Clients are increasingly looking to partner with a firm that creates value for society as a whole and helps them invest in areas and ideas that matter most to them. Our millennial clients are a good example of this. Many are restructuring their portfolios and using our advisory and product capabilities to do well financially while also doing good for the world around us. Technology plays another key part in this endeavor, helping us to deliver even more for our clients, empower our client-facing staff, including advisors, and make our infrastructure more agile and versatile and, as a result, increase productivity and quality of service.

What is UBS doing to provide sustainable finance opportunities for clients?
Sustainable finance has long been a firm-wide priority. The Dow Jones Sustainability Index, the most widely recognized sustainability ranking, recognized UBS as the industry leader for the fifth year running. This demonstrates our commitment to the growing demand for sustainable finance services and products across client segments. A key indicator is the development of our core sustainable investing assets, which have more than doubled in just two years, from 5.6% of total invested assets in 2017 to 13.5% in 2019. Our multi-asset sustainable investing solutions were our fastest-growing mandate offering, reaching over USD 9 billion in invested assets. We aim to create sustainable finance products and services firm wide that help clients channel capital to support the United Nations Sustainable Development Goals (the SDGs). We also offer advice from philanthropy experts to assist clients in making a meaningful and measurable difference for their chosen philanthropic causes.

How are you using technology to help drive value for clients and shareholders?
We invest in technology to improve our client service and client experience, as well as to improve the efficiency and scalability of our businesses. Technology affects every element of our value chain – from the way we communicate with, serve and advise our clients to how we manage risks and run our back office. This is why we invest over 10% of revenues per year in technology, which was around USD 3.5 billion in 2019. Last year we decommissioned over 400 legacy applications and deployed 1,100 robots across our organization. In our Swiss Personal & Corporate Banking business, for example, two-thirds of our clients interact with us through our digital banking facilities. In our corporate business, this number is even higher with almost 80% using our digital banking. These clients are more satisfied and, as a result, do more business with us. Data analytics allows client advisors to analyze data more efficiently and provide better, more timely advice. We are also using machine learning and artificial intelligence-powered engines to automate more complex tasks and allow for better and faster decision-making.

What kind of capital returns can we expect if you successfully execute on your strategy and priorities?
We continue to focus on sustainable performance. We hold ourselves accountable for delivering our targets by executing on our proven strategy in a disciplined manner, and avoiding opportunistic measures for the sake of short-term gain. We invest for the long term and aim to do the right thing for clients and the long-term health of the business. Over the next three years, our aim is to deliver at the upper end of our target range of between 12% and 15% reported return on CET1 capital, as announced in January 2020. Our goal is to balance revenue growth with both cost and capital efficiency.

Going forward, we intend to grow our dividend per share by USD 1 cent per year. This will give us greater capacity to return more capital through share repurchases. We expect to repurchase around USD 450 million worth of shares in the first half of 2020, completing our current CHF 2 billion repurchase program, and will assess our future repurchase plans in the second half of 2020.

What is UBS doing to develop the talent and leaders of tomorrow?
Our success relies on our long-standing commitment to investing in our employees at every career stage. We are widely recognized as an employer of choice and a great place to build a career. We believe the right strategy and a culture of ethical behavior and accountability drive strong performance. The three keys to success – our Pillars, Principles and Behaviors – embody the foundation of our strategy and culture. They define what we stand for as a firm and as individuals, while also defining the way we think, work and act at UBS. Our in-house UBS University updated its curriculum to emphasize future-skills development and personal growth for all employees, with a new digital skills syllabus that builds knowledge about topics such as blockchain, cloud computing, robotics and artificial intelligence. Furthermore, we revamped our leadership development offering to ensure our leaders have the skills they need to develop their businesses and their people, and to lead effectively in the digital transformation age. Finally, we foster a diverse and inclusive culture across the firm to drive sustainable growth and innovation, deliver the best of UBS to clients, and build a better place to work.

What is UBS doing to benefit stakeholders and society at large?
We believe that by keeping a healthy balance between the expectations of our most important stakeholder groups – clients, employees and investors – we are also creating value for society. Delivering tailored advice, top quality solutions and disciplined execution, while also addressing strategic opportunities, further improving the working environment and facilitating economic development that is sustainable for the planet and humanity – these actions are at the heart of our strategy. In 2019, we demonstrated this commitment by becoming a founding signatory of the United Nations Principles for Responsible Banking, a comprehensive framework for the integration of sustainability into banks' business strategies. Our annual report contains a dedicated section on how we create value for all our stakeholders.

What are you doing to support the transition to a low-carbon economy?
We have been executing on our comprehensive climate strategy for many years. In 2019, our total core sustainable investments increased significantly to USD 488 billion from USD 313 billion in 2018, while, as part of this, our climate-related sustainable investments increased to USD 108 billion. This includes our recently launched and award-winning Climate Aware strategy, which reached over USD 3 billion in invested assets. To protect our own and our clients' assets from climate-related risks, our exposure to carbon-related assets on our balance sheet continues to be low, at 0.8% or USD 1.9 billion as at the end of 2019, down from 1.6% at the end of 2018 and 2.8% at the end of 2017. Our goal is to be the financial partner of choice for clients who want to mobilize capital toward climate action and the Paris Agreement. For the World Economic Forum annual meeting in 2020, our white paper focused on climate action and the ways in which investors can mobilize private and institutional capital toward the orderly transition to a low-carbon economy.

How does UBS play a role and give back in the communities in which it operates?
We strive to use our skills to help communities grow and thrive. We recognize that our long-term success depends on the health and prosperity of the communities in which we operate. Our firm-wide *UBS in society* program covers all of the activities and capabilities related to sustainable finance, including sustainable investing, philanthropy, environmental, climate and human rights policies governing client and supplier relationships, our environmental footprint, human resources, and community investment. For example, we seek to tackle societal disadvantage through long-term investments in education and entrepreneurship, such as the Quality Education India Development Impact Bond. We provide strategic financial commitments and offer targeted employee volunteering to drive positive change. Directing these efforts toward skills-based volunteering, we aim to tackle local social issues in the most powerful and effective way. In 2019, 38% of our global workforce volunteered, with 48% of the hours being skills based.

You have announced that Ralph Hamers will be appointed Group Chief Executive Officer as of 1 November 2020. Can you explain your choice?
The Board made the decision to appoint Ralph Hamers as successor of Group CEO Sergio P. Ermotti following a thorough and rigorous selection process, reflecting the firm's commitment to strong corporate governance. Ralph is a proven leader in banking and a strong cultural fit for UBS. Under his leadership, ING Group has implemented a fundamental shift in its operating model and is now considered one of the best examples of digital innovation in the banking sector. Ralph is a charismatic executive with the experience and personality to write UBS's next chapter.

Thank you for your ongoing support. We look forward to your feedback and to welcoming you to this year's Annual General Meeting on 29 April.

Yours sincerely,

Axel A. Weber Chairman of the Board of Directors	Sergio P. Ermotti Group Chief Executive Officer

Corporate information

UBS Group AG is incorporated and domiciled in Switzerland and operates under Art. 620ff. of the Swiss Code of Obligations as an Aktiengesellschaft, a corporation limited by shares. Its registered office is at Bahnhofstrasse 45, CH-8001 Zurich, Switzerland, telephone +41-44-234 11 11, and its corporate identification number is CHE-395.345.924. UBS Group AG was incorporated on 10 June 2014 and was established in 2014 as the holding company of the UBS Group. UBS Group AG shares are listed on the SIX Swiss Exchange and on the New York Stock Exchange (ISIN: CH0244767585; CUSIP: H42097107). UBS Group AG owns 100% of the outstanding shares in UBS AG.

UBS AG is incorporated and domiciled in Switzerland and operates under Art. 620ff. of the Swiss Code of Obligations as an Aktiengesellschaft, a corporation limited by shares. The addresses and telephone numbers of the two registered offices of UBS AG are: Bahnhofstrasse 45, CH-8001 Zurich, Switzerland, telephone +41-44-234 11 11; and Aeschenvorstadt 1, CH-4051 Basel, Switzerland, telephone +41-61-288 50 50. The corporate identification number is CHE-101.329.561. UBS AG is a bank. The company was formed on 29 June 1998, when Union Bank of Switzerland (founded in 1862) and Swiss Bank Corporation (founded in 1872) merged to form UBS AG.

Contacts

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Investor Relations
UBS's Investor Relations team supports institutional, professional and retail investors from our offices in Zurich, New York and Krakow.

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UBS's Media Relations team supports global media and journalists from offices in Zurich, London, New York and Hong Kong.

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Office of the Group Company Secretary
The Group Company Secretary receives inquiries on compensation and related issues addressed to members of the Board of Directors.

UBS Group AG, Office of the
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Shareholder Services
UBS's Shareholder Services team, a unit of the Group Company Secretary office, is responsible for the registration of UBS Group AG registered shares.

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Corporate calendar UBS Group AG

Publication of the first quarter 2020 report:	Tuesday, 28 April 2020
Annual General Meeting 2020:	Wednesday, 29 April 2020
Publication of the second quarter 2020 report:	Tuesday, 21 July 2020
Publication of the third quarter 2020 report:	Tuesday, 20 October 2020

Corporate calendar UBS AG

Publication of the first quarter 2020 report:	Monday, 4 May 2020
Publication of the second quarter 2020 report:	Friday, 24 July 2020
Publication of the third quarter 2020 report:	Friday, 23 October 2020

Additional publication dates of quarterly and annual reports will be made available as part of the corporate calendar of UBS AG at www.ubs.com/investors.

Imprint

Publisher: UBS Group AG, Zurich, Switzerland l www.ubs.com

Language: English

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Our key figures

	As of or for the year ended		
USD million, except where indicated	31.12.19	31.12.18	31.12.17
Group results			
Operating income	28,889	30,213	29,622
Operating expenses	23,312	24,222	24,272
Operating profit / (loss) before tax	5,577	5,991	5,351
Net profit / (loss) attributable to shareholders	4,304	4,516	969
Diluted earnings per share (USD)[1]	1.14	1.18	0.25
Profitability and growth[2]			
Return on equity (%)	7.9	8.6	1.8
Return on tangible equity (%)	9.0	9.8	2.0
Return on common equity tier 1 capital (%)	12.4	13.1	3.0
Return on risk-weighted assets, gross (%)	11.0	11.8	12.6
Return on leverage ratio denominator, gross (%)	3.2	3.3	3.3
Cost / income ratio (%)	80.5	79.9	81.6
Adjusted cost / income ratio (%)	78.9	79.5	78.2
Effective tax rate (%)	22.7	24.5	80.5
Net profit growth (%)	(4.7)	366.0	(71.1)
Resources			
Total assets	972,183	958,489	939,279
Equity attributable to shareholders	54,533	52,928	52,495
Common equity tier 1 capital[3]	35,582	34,119	33,516
Risk-weighted assets[3]	259,208	263,747	243,636
Common equity tier 1 capital ratio (%)[3]	13.7	12.9	13.8
Going concern capital ratio (%)[3]	20.0	17.5	17.6
Total loss-absorbing capacity ratio (%)[3]	34.6	31.7	33.0
Leverage ratio denominator[3]	911,325	904,598	909,032
Common equity tier 1 leverage ratio (%)[3]	3.90	3.77	3.69
Going concern leverage ratio (%)[3]	5.7	5.1	4.7
Total loss-absorbing capacity leverage ratio (%)[3]	9.8	9.3	8.8
Liquidity coverage ratio (%)[4]	134	136	143
Other			
Invested assets (USD billion)[5]	3,607	3,101	3,262
Personnel (full-time equivalents)[6]	68,601	66,888	61,253
Market capitalization[7]	45,661	45,907	68,477
Total book value per share (USD)[7]	15.08	14.35	14.11
Total book value per share (CHF)[7]	14.60	14.11	13.75
Tangible book value per share (USD)[7]	13.29	12.55	12.34
Tangible book value per share (CHF)[7]	12.87	12.33	12.03

1 Refer to "Note 9 Earnings per share (EPS) and shares outstanding" in the "Consolidated financial statements" section of this report for more information. 2 Refer to the "Performance targets and measurement" section of this report for more information about our performance targets. 3 Based on the Swiss systemically relevant bank framework as of 1 January 2020. Refer to the "Capital management" section of this report for more information. 4 Refer to the "Balance sheet, liquidity and funding management" section of this report for more information. 5 Includes invested assets for Global Wealth Management, Asset Management and Personal & Corporate Banking. 6 Personnel (full-time equivalents) as of 31 December 2019 has been amended compared with our fourth quarter 2019 report, resulting in a decrease of 61. 7 Refer to "UBS shares" in the "Capital management" section of this report for more information.

Alternative performance measures

An alternative performance measure (APM) is a financial measure of historical or future financial performance, financial position or cash flows other than a financial measure defined or specified in the applicable recognized accounting standards or in other applicable regulations. We report a number of APMs, including adjusted results, in the discussion of the financial and operating performance of the Group, our business divisions and our Corporate Center. We use APMs to provide a fuller picture of our operating performance and to reflect management's view of the fundamental drivers of our business results. A definition of each APM, the method used to calculate it and the information content are presented in the appendix under "Alternative performance measures." Our APMs may qualify as non-GAAP measures as defined by SEC regulations.

Terms used in this report, unless the context requires otherwise

"UBS," "UBS Group," "UBS Group AG consolidated," "Group," "the Group," "we," "us" and "our"	UBS Group AG and its consolidated subsidiaries
"UBS AG consolidated"	UBS AG and its consolidated subsidiaries
"UBS Group AG" and "UBS Group AG standalone"	UBS Group AG on a standalone basis
"UBS AG" and "UBS AG standalone"	UBS AG on a standalone basis
"UBS Switzerland AG" and "UBS Switzerland AG standalone"	UBS Switzerland AG on a standalone basis
"UBS Europe SE consolidated"	UBS Europe SE and its consolidated subsidiaries
"UBS Americas Holding LLC" and "UBS Americas Holding LLC consolidated"	UBS Americas Holding LLC and its consolidated subsidiaries

In this report, unless the context requires otherwise, references to any gender shall apply to all genders.

Our Board of Directors

1. **Axel A. Weber**
Chairman of the Board of Directors/Chairperson of the Corporate Culture and Responsibility Committee/Chairperson of the Governance and Nominating Committee

2. **Robert W. Scully**
Member of the Risk Committee

3. **Jeanette Wong**
Member of the Audit Committee

4. **Dieter Wemmer**
Member of the Audit Committee/member of the Compensation Committee

5. **Isabelle Romy**
Member of the Audit Committee/member of the Governance and Nominating Committee

6. **David Sidwell**
Senior Independent Director/Chairperson of the Risk Committee/member of the Governance and Nominating Committee

7. **Fred Hu**
Member of the Compensation Committee

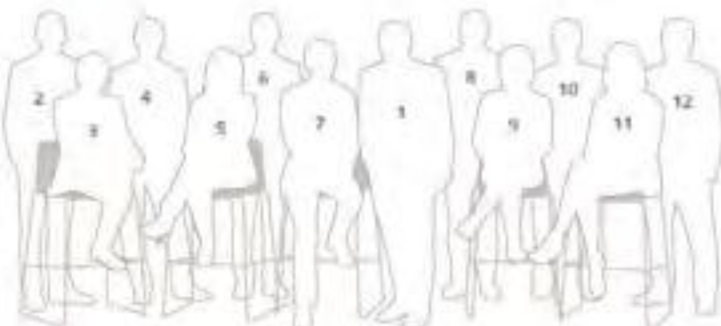
8. **Jeremy Anderson**
Chairperson of the Audit Committee/member of the Corporate Culture and Responsibility Committee/member of the Governance and Nominating Committee

9. **Julie G. Richardson**
Chairperson of the Compensation Committee/member of the Governance and Nominating Committee/member of the Risk Committee

10. **William C. Dudley**
Member of the Corporate Culture and Responsibility Committee/member of the Risk Committee

11. **Beatrice Weder di Mauro**
Member of the Audit Committee/member of the Corporate Culture and Responsibility Committee

12. **Reto Francioni**
Member of the Compensation Committee/member of the Risk Committee



The Board of Directors (BoD) of UBS Group AG, under the leadership of the Chairman, consists of between 6 to 12 members as per our Articles of Association. The BoD decides on the strategy of the Group upon recommendation by the Group Chief Executive Officer (Group CEO) and is responsible for the overall direction, supervision and control of the Group and its management, as well as for supervising compliance with applicable laws, rules and regulations. The BoD exercises oversight over UBS Group AG and its subsidiaries and is responsible for establishing a clear Group governance framework to provide effective steering and supervision of the Group, taking into account the material risks to which UBS Group AG and its subsidiaries are exposed. The BoD has ultimate responsibility for the success of the Group and for delivering sustainable shareholder value within a framework of prudent and effective controls, approves all financial statements for issue and appoints and removes all Group Executive Board (GEB) members.

Our Group Executive Board

UBS Group AG operates under a strict dual board structure, as mandated by Swiss banking law, and therefore the BoD delegates the management of the business to the GEB. Under the leadership of the Group CEO, the GEB is comprised of 13 members and has executive management responsibility for the steering of the Group and its business. It assumes overall responsibility for developing and implementing the strategies of the Group, business divisions and Group functions, as approved by the BoD.

→ **Refer to "Board of Directors" and "Group Executive Board" in the "Corporate governance" section of this report or to *www.ubs.com/bod* and *www.ubs.com/geb* for the full biographies of our BoD and GEB members**

1 **Sergio P. Ermotti**
Group Chief Executive Officer

2 **Christian Bluhm**
Group Chief Risk Officer

3 **Markus U. Diethelm**
Group General Counsel

4 **Iqbal Khan**
Co-President Global Wealth Management

5 **Tom Naratil**
Co-President Global Wealth Management and President UBS Americas

6 **Edmund Koh**
President UBS Asia Pacific

7 **Kirt Gardner**
Group Chief Financial Officer

8 **Suni Harford**
President Asset Management

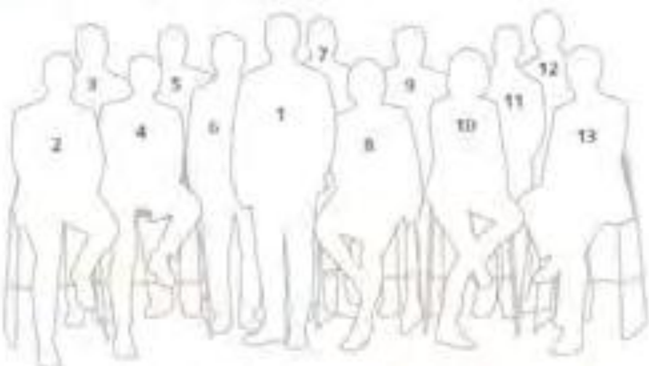
9 **Markus Ronner**
Group Chief Compliance and Governance Officer

10 **Sabine Keller-Busse**
Group Chief Operating Officer and President UBS Europe, Middle East and Africa

11 **Robert Karofsky**
Co-President Investment Bank

12 **Axel P. Lehmann**
President Personal & Corporate Banking and President UBS Switzerland

13 **Piero Novelli**
Co-President Investment Bank



Our evolution

Since our origins in the mid-19th century, many financial institutions have become part of the history of our firm and have helped to shape its development. 1998 was a major turning point for the firm, when two of the then three largest banks in Switzerland, Union Bank of Switzerland and Swiss Bank Corporation (SBC), merged to form today's UBS. At the time of the merger, both banks were already well established and successful in their own right. Union Bank of Switzerland had grown organically to become the largest Swiss bank. In contrast, SBC had grown mainly through a combination of strategic partnerships and acquisitions, including S.G. Warburg in 1995.

In 2000, we acquired PaineWebber, a US brokerage and asset management firm whose roots went back to 1879, establishing us as a significant player in the US. Over the past half century, we have also built a strong presence in the Asia Pacific region, where we are the largest wealth manager (measured by invested assets), a top-tier investment bank and an established player in asset management.

During the financial crisis of 2008, we incurred significant losses. In 2011, we initiated a strategic transformation of our firm toward a business model that focused on our core businesses of wealth management and personal and corporate banking in Switzerland. We sought to revert to our roots, emphasizing a client-centric model that requires less risk-taking and capital, and have successfully completed this transformation.

Today, we are a global financial services firm, consisting of the largest truly global wealth manager, a leading personal and corporate banking business in Switzerland, a global asset manager and a focused investment bank.

The chart on the next page provides an overview of our principal legal entities and reflects our legal entity structure.

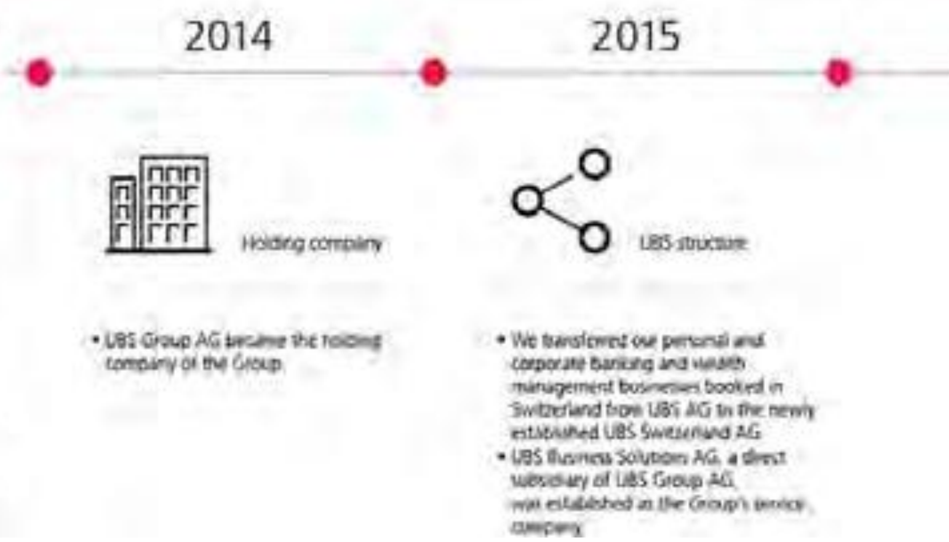
→ **Refer to *www.ubs.com/history* for more information**

The most recent changes to our legal entity structure

In 2014, we began adapting our legal entity structure to improve the resolvability of the Group in response to too big to fail requirements in Switzerland and recovery and resolution regulation in other countries in which the Group operates.

We continue to consider further changes to the Group's legal structure in response to regulatory requirements and other external developments. Such changes may include further consolidation of operating subsidiaries in the EU and adjustments to the booking entity or location of products and services.

→ **Refer to the "Risk factors" section of this report for more information**
→ **Refer to "Recovery and resolution" in the "Regulation and supervision" section of this report for more information**



The legal structure of the UBS Group as of 28 February 2020

■ Holding company and significant regulated subsidiaries and sub-groups subject to disclosure in UBS Group AG annual and quarterly reporting

1 UBS Limited was merged into UBS Europe SE effective 1 March 2019. 2 Other significant non-US subsidiaries are generally held either directly by UBS AG or indirectly through UBS Switzerland AG or UBS Asset Management AG. 3 Refer to "Note 31 Interests in subsidiaries and other entities" in the "Consolidated financial statements" section of this report for more information on UBS's subsidiaries, including individually significant subsidiaries and sub-groups. 4 99% directly held by UBS Americas Inc. and 1% held by UBS Americas Holding LLC. 5 Other significant US subsidiaries are generally held either directly by UBS Americas Inc. or indirectly through UBS Financial Services Inc.

2016

UBS structure

- UBS Americas Holding LLC was designated as our intermediate holding company for our US subsidiaries.
- Wealth management subsidiaries in various European countries were merged into UBS Europe SE.
- The majority of Asset Management's operating subsidiaries were transferred to UBS Asset Management AG.
- UBS Group Funding (Switzerland) AG was established as a wholly owned direct subsidiary to issue loss-absorbing AT1 capital instruments and TLAC-eligible senior unsecured debt, guaranteed by UBS Group AG.

2017

UBS Business Solutions

- Shared services functions in Switzerland and the UK were transferred from UBS AG to UBS Business Solutions AG.
- We completed the transfer of shared services functions in the US to our US service company, UBS Business Solutions US LLC, a wholly owned subsidiary of UBS Americas Holding LLC.

2019

UBS Europe SE

UBS Group Funding (Switzerland) AG

- Merger of UBS Limited, our UK-headquartered subsidiary, into UBS Europe SE, our Germany-headquartered European subsidiary.
- We transferred our outstanding loss-absorbing AT1 capital instruments and TLAC-eligible senior unsecured debt from UBS Group Funding (Switzerland) AG to UBS Group AG as the issuer.

Our strategy, business model and environment

Management report

Our strategy

We aim to drive higher and superior returns by growing and leveraging our unique, integrated and complementary business portfolio and geographic footprint.

UBS is the largest truly global wealth manager and a leading personal and corporate bank in Switzerland, with focused investment bank and asset management divisions. We concentrate on capital-efficient businesses in our targeted markets, where we have a strong competitive position and an attractive long-term growth or profitability outlook. We view capital strength as the foundation of our strategy.

In delivering all of UBS as one firm to our clients, we intend to: strengthen our leading client franchises and grow share; position UBS for growth by expanding our services and capabilities; drive greater efficiencies and scale; and further intensify collaboration for the benefit of our clients.

Driving increasing returns

We manage UBS for the long term, focusing on sustainable profit growth and responsible resource deployment. We aim to balance growth opportunities with cost and capital efficiency in order to drive attractive risk-adjusted returns and sustainable performance.

For the years 2020–2022, we have seven strategic priorities, which are outlined below.

Priority I We aim to increase profit before tax in our Global Wealth Management business by 10–15% and drive higher pre-tax margins by elevating our leading franchise. We are adjusting our coverage across the client spectrum to deliver more tailored services and solutions. We are reorganizing ourselves to be closer to clients, in order to increase time spent with them, empowering regions, improving our responsiveness and speed to market, as well as delivering on all of the firm's capabilities through expanded strategic partnerships with the Investment Bank and Asset Management. Furthermore, we are expanding our product offering while becoming more efficient, leveraging scale through partnerships and optimizing processes to increase productivity.

Priority II In our Investment Bank, we intend to improve returns by driving profitable growth, by further optimizing resources and through collaboration. We will maintain our capital-light business model that is focused on advice and execution and leverages our digital capabilities. Together with our other business divisions and through external partnerships, we aim to deliver market-leading digital, research and banking capabilities to our clients, while consuming up to one-third of Group resources.

Priority III In Asset Management, we intend to capitalize on our differentiated client offering for further growth, performance and scale. We plan to build on our strengths in fast-growing areas of the industry, such as sustainable investing, private markets and alternatives.

Priority IV Personal & Corporate Banking aims to deliver steady profit growth by enhancing its digital initiatives and services, while improving efficiency. By expanding our leading position in digital services in Switzerland, along with broadening our advisory solutions and product offering, we expect to increase profits despite the current negative interest rate environment.

Priority V We want to deliver more as one firm to our clients. The collaboration between our business divisions is critical to the success of our strategy and is a source of competitive advantage. This collaboration also provides further revenue growth potential and enables us to better meet client needs; for example, in the ultra high net worth and Global Family Office space.

Another area where collaboration between our business divisions can bring more value to clients is in sustainable finance. As the largest truly global wealth manager, we have a responsibility to take a leading role in shaping a positive future, and our goal is to be the financial provider of choice for clients who wish to mobilize capital toward the achievement of specific environmental or social outcomes. We are shaping the landscape of sustainable finance by using thought leadership, innovation and partnerships to support clients in their sustainability efforts.

→ **Refer to "Society" and "Our focus on ESG" in the "How we create value for our stakeholders" section of this report for more information about our engagement and leadership in sustainability matters**

Priority VI We aim to drive improvements in firm-wide efficiency to fund growth and enhance returns. We believe continued optimization of processes, platforms, our organization and capital resources will help us to achieve this.

We will continue to invest in technology with the goal of improving efficiency and effectiveness, driving growth and better serving our clients.

We also intend to realize the benefits of existing external partnerships and to explore selected new opportunities.

Priority VII We plan to maintain an attractive capital return profile through dividends and share repurchases. Our capital strength and capital-accretive business model allows us to grow our business while delivering attractive capital returns to our shareholders.

We aim to increase our ordinary dividend per share by USD 0.01 each year, and to return excess capital through share repurchases. We consider business conditions and any idiosyncratic developments when determining excess capital available for share repurchases.

Performance targets and measurement

Targets and capital guidance

In January 2020, we updated and simplified our performance target framework. We reduced the number of targets to concentrate primarily on the Group rather than our business divisions, underlining our focus on cross-divisional collaboration. Our targets are underpinned by the latest three-year strategic plan, which reflects our strategic initiatives, management actions, as well as certain economic and market assumptions. The return and efficiency targets have been revised to reflect changes in the market outlook since the previously communicated targets were set in October 2018.

The table below shows the performance targets and capital guidance for the 2020–2022 period. Our updated performance targets are based on reported results. From the first quarter of 2020, we will no longer disclose adjusted results in our financial reports. We will continue to provide disclosure of restructuring and litigation expenses as well as other material profit or loss items that management believes are not representative of underlying business performance in our management's discussion and analysis.

Performance against targets is taken into account when determining variable compensation.

→ **Refer to "Performance and compensation at a glance" in the "Compensation" section of this report for more information about variable compensation**

→ **Refer to "Alternative performance measures" in the appendix to this report for definitions of and further information about our performance measures**

Targets and capital guidance 2020–2022
(on a reported basis)

Group returns	**12–15%** return on CET1 capital (RoCET1)
Cost efficiency	Positive operating leverage and **75–78%** cost / income ratio
Growth	**10–15%** profit before tax growth in Global Wealth Management
Capital allocation	**Up to ⅓** of Group RWA and LRD in the Investment Bank
Capital guidance	**~13%** CET1 capital ratio **~3.7%** CET1 leverage ratio

Our businesses

Working in partnership

We operate through four business divisions – Global Wealth Management, Personal & Corporate Banking, Asset Management and the Investment Bank. Our global reach and the breadth of our expertise are major assets that set us apart from our competitors. We see partnership as key to our growth, both within and between business divisions. We are at our best when we combine our strengths to provide our clients with more comprehensive and better solutions through, for example, the creation of a unified capital markets group across Global Wealth Management and the Investment Bank, and a Global Family Office joint venture.

Combining our strengths makes us a better firm. Initiatives such as the *Group Franchise Awards* encourage employees to look for ways to build bridges between areas and offer the whole firm to our clients.

How we deliver the whole firm to our clients – examples

Wealth Management Platform

Outside the US, Global Wealth Management continues to migrate to one operating platform, which has been built on our Swiss IT platform. Our clients benefit from a broader universe of products and services, simplified onboarding, and a better banking experience through an intuitive digital platform with leading-edge advice capabilities across all channels. The same interface is shared by Personal & Corporate Banking clients in Switzerland and Global Wealth Management clients outside the US. In the US, the Wealth Management Americas Platform is improving advisor productivity by leveraging a newly created advisory utility.

Client shifts and referrals

Personal & Corporate Banking generates client shifts and referrals to other business divisions. For example, personal banking clients are shifted to Global Wealth Management, and corporate and institutional segment clients are referred to Asset Management for pension fund solutions or the Investment Bank for capital market and corporate transactions.

Global Family Office

Our Global Family Office unit brings together the capabilities of Global Wealth Management, Asset Management and the Investment Bank to leverage growth and efficiency opportunities. It provides customized, institutional-style services to wealthy families and individuals seeking access to, or advice on, capital market activities.

Separately managed accounts in the Americas

In the US, we have combined the portfolio management and related execution resources from across Global Wealth Management and Asset Management within Asset Management. Alongside this, in January 2020 we introduced an industry-leading approach enabling Global Wealth Management clients to access separately managed accounts in the Americas at no incremental fee. This transformative move allows our financial advisors to focus on delivering the best ideas, solutions and capabilities to our clients – regardless of where they originate in the firm – and positions UBS as an industry leader.

Unified capital markets group

We have created a strategic partnership between Global Wealth Management and the Investment Bank that is focused on spurring growth – in our ultra high net worth, middle market institutions and public finance businesses – and identifying synergies across the supporting infrastructure. This important initiative includes a unified capital markets team, integrating risk management systems and the simplification of our regional operating structure.

Global Wealth Management

We are the largest truly global wealth manager, with USD 2.6 trillion in invested assets. Our goal is to provide tailored advice and solutions to private clients and family offices.

Since the combination of Wealth Management and Wealth Management Americas in 2018, we have continued to deliver comprehensive services to clients, capture operational efficiencies, and invest in our business. More than 22,000 Global Wealth Management employees assist our clients with achieving their goals. Our presence in the ultra high net worth segment is particularly strong, and we have access to the majority of the world's billionaires.

In Japan, we have entered into a comprehensive strategic wealth management partnership with Sumitomo Mitsui Trust Holdings, Inc. (SuMi Trust Holdings). The new joint venture will combine UBS's wealth management capabilities with SuMi Trust Holdings' stature as Japan's largest independent trust bank. SuMi Trust Holdings offers a range of services, including banking, real estate, asset and wealth advisory services, and has strong client access and brand name awareness in Japan.

Global Wealth Management organizational changes

In January 2020, we announced several initiatives designed to achieve Global Wealth Management's growth ambitions and to elevate the quality and value of the service we deliver to our clients. First, we have reframed our offering around each client's needs to deliver more tailored services and solutions. Second, we have made it easier for advisors to spend more time with clients and to better understand their needs and preferences, and we have taken measures to improve our responsiveness and speed to market. We created three distinct business units in EMEA – Europe; Central and Eastern Europe; and the Middle East and Africa – to better capture the diverse opportunities in these markets. Finally, we intend to deliver all of the firm's capabilities through strategic partnerships with the Investment Bank and Asset Management.

Our focus

We serve high net worth and ultra high net worth individuals, families and family offices around the world, as well as affluent clients in selected markets. Through our organizational changes, we are making our Global Family Office capabilities, which are provided to ultra high net worth individuals, available to more clients, targeting coverage of around 1,500 in total.

While we are already a market leader in the ultra high net worth segment outside the US,[1] we believe that we can also become the firm of choice for the wealthiest clients in the US, many of whom already have a relationship with UBS. Our globally diversified footprint allows us to capture growth both in the largest (the US) and the fastest-growing (Asia Pacific) wealth markets.

We are focusing on increasing mandate and lending penetration, delivering innovative solutions for our clients (e.g., structured solutions, private markets, sustainability and thematic investing), as well as enhancing our advisors' productivity by making operational processes more efficient. Additionally, we aim to maintain low attrition and to increase our share of clients' business.

We are investing in our operating platforms and tools to support our clients and client advisors, in order to better serve our clients' needs and improve our efficiency. As of 31 December 2019, approximately 80% of invested assets booked outside the Americas were on the *Wealth Management Platform* as we continue to consolidate our operating platforms there. In the US, and in collaboration with our third-party software provider Broadridge, we are building the *Wealth Management Americas Platform*, which we expect to become operational in 2021. The development of our platforms is happening alongside enhancements to our digital capabilities for the benefit of our clients and advisors.

→ **Refer to "Clients" in the "How we create value for our stakeholders" section of this report for more information about innovation and digitalization**

How we operate

We have a global footprint, with a presence in the world's largest and fastest-growing markets and are well positioned to serve clients with global interests and demands. The US is our largest market, accounting for more than 50% of our invested assets. We are the largest wealth manager in Asia Pacific and the second largest in Latin America in terms of invested assets.[1]

In Switzerland, we hold a leading market position[1] and can deploy the full range of the Group's products and services across Personal & Corporate Banking, Asset Management and the Investment Bank.

Our broad domestic footprint in Europe enables us to provide locally adapted offerings, and our local offices across Central Europe, the Middle East and Africa keep us close to our clients.

Through strategic partnerships with the Investment Bank and Asset Management, we provide clients with broad access to financing, global capital markets and portfolio solutions.

→ **Refer to "Working in partnership" in this section for examples of collaboration between the business divisions**

1 Statements of market position for Global Wealth Management are UBS's estimates based on published invested assets and internal estimates.

As part of our organizational changes, ultra high net worth client relationships and advisors were integrated into regional business units to increase speed and proximity to clients. In our newly established Global Capital Markets team, we combined our Investment Product Services (IPS) unit and Investment Bank teams and their respective expertise. The Global Capital Markets team provides clients with an enhanced offering, faster execution, and more competitive conditions.

Our main competitors are either large US players that have a smaller presence outside the US (including Bank of America, JPMorgan Chase, Morgan Stanley and Wells Fargo) or geographically diverse firms with a smaller presence in the US (including BNP Paribas, Credit Suisse, HSBC and Julius Baer). Our size, geographic presence and diversified client portfolio are exceptional and would be difficult for other wealth managers to replicate organically.

What we offer

Our distinctive approach to wealth management is designed to strengthen engagement with our clients and to help them pursue what matters most to them.

By operating as a unified business, we aim to offer our clients the best wealth management solutions, services and expertise globally. Our experts provide our clients with thought leadership, investment analysis and formulated investment strategies, as well as develop and source solutions for them. The Chief Investment Office (CIO) provides the concise, comprehensive *UBS House View*, which identifies and communicates investment opportunities designed to protect and increase our clients' wealth over generations. Regional client strategy teams deepen our understanding of clients' needs, behaviors and preferences, enabling us to tailor our offerings to serve them better. Our product specialists deliver investment solutions, including our flagship investment mandates, innovative long-term themes and sustainable investment offerings.

→ **Refer to "Clients" in the "How we create value for our stakeholders" section of this report for more information about innovation and digitalization**

Clients benefit from our comprehensive set of capabilities and expertise, including wealth planning, investing, philanthropy, corporate and banking services, as well as family advisory services. We also offer considerable expertise across structured, mortgage and securities-based lending.

We work to improve our offerings and respond to changing client needs. In 2019, we launched a new line of *UBS Manage* offerings in Switzerland. In addition, to meet growing demand, we expanded the number of exclusive private markets opportunities for clients. Our sustainable investing solutions continue to be well received. Currently, invested assets in 100% sustainable investing solutions and bespoke sustainable investing solutions have grown to over USD 9 billion. We also broadened our sustainable investing offering, teaming up with external partners such as BMO Global Asset Management, Generation Investment Management and KKR & Co. Inc. to offer clients innovative sustainable development-related investment opportunities.

How we serve our clients

We serve our clients through local offices, dedicated advisors and experienced specialists. We use a mix of digital and non-digital channels (including marketing campaigns, events, advertising, publications and digital-only solutions) to help drive greater awareness of UBS among prospects and reinforce trust-based relationships between advisors and clients.

How we are organized

Our business division is organized into regional business units: the US and Canada; Latin America; Europe; Central and Eastern Europe; the Middle East and Africa; Asia Pacific; and Switzerland. We also have a business unit for our Global Family Office clients. Central functions for global capabilities supporting these business units are the CIO, Global Banking, Global Capital Markets and the Chief Operating Office. We are governed by the executive, risk, operating, and asset and liability committees.

Personal & Corporate Banking

As a leading personal and corporate bank in Switzerland, we provide comprehensive financial products and services to private, corporate and institutional clients. We are among the country's foremost players in the private and corporate loan market, with a substantial lending portfolio. Personal & Corporate Banking is at the core of our universal bank delivery model in Switzerland.

Our focus

We are a leading personal and corporate bank in Switzerland, providing a superior client experience and combining technology with a personal touch.

We have established a strong pipeline of growth initiatives across our business areas. Effective 1 November 2019, we have set up a new business area, Digital Platforms & Marketplaces, to rapidly extend our platform offering for mortgages.

We also aim to improve efficiency by streamlining processes and introducing new digital self-service tools. For example, we have rolled out an integrated mortgage workflow for extensions, which significantly reduces the time it takes to set up a contract. In addition, we have further optimized our contact center setup, increased automation of repetitive processes, and launched a pilot for a digital mailroom that reduces processing time by digitizing incoming physical mail and documents. Technology plays a key role in our client-centered operating model and we aim to expand our digital leadership. Our multi-year digitalization program enables us to further enhance the client experience. Thanks to technological solutions, we are able to offer clients new products and identify new cross-selling opportunities in a more targeted way.

→ **Refer to "Clients" in the "How we create value for our stakeholders" section of this report for more information about innovation and digitalization**

Operationally, we strive for excellence in execution, focusing on efficiency while improving our service quality and overall agility. To scale our digital transformation efforts, in 2019 we opened our second digital factory in Switzerland, which is larger than our first one. These digital factories are now home to approximately 1,100 employees across various functions. Moreover, we introduced an agile academy and quick-launch formats to drive innovation and attract key talent.

How we operate

While we operate primarily in our home market of Switzerland, we also provide capabilities to support the growth of the international business activities of our Swiss corporate and institutional clients through our local hubs in Frankfurt, New York, Hong Kong and Singapore. We are the only Swiss bank providing local banking capabilities abroad to its corporate clients.

In the Corporate & Institutional Clients business, our main competitors are Credit Suisse, the cantonal banks and globally active foreign banks. We compete in areas covering basic banking services, cash management, trade and export finance, asset servicing, investment advice for institutional clients, corporate finance and lending, and cash and securities transactions for banks.

In the Swiss Personal Banking business, our competitors are Credit Suisse, PostFinance, Raiffeisen, the cantonal banks and other regional and local Swiss banks. In addition to those traditional players, we also face competition from international players entering the Swiss market and neobanks. We compete in areas such as basic banking, mortgages and foreign exchange, as well as investment mandates and funds.

What we offer

Our personal banking clients have access to a comprehensive, life cycle-based offering and convenient digital banking. We deliver a broad range of basic banking products, from payments to deposits, cards, online and mobile banking, as well as lending (predominantly mortgages), investments and retirement services. The overall service range is complemented by our *UBS KeyClub* reward program, which provides clients residing in Switzerland with exclusive and attractive offers, including those from third-party partners. In close collaboration with Global Wealth Management, we offer leading private banking and wealth management services.

Our corporate and institutional clients benefit from our financing and investment solutions, particularly access to equity and debt capital markets, syndicated and structured credit, private placements, leasing, and traditional financing. Our transaction banking offers solutions for payment and cash management services, trade and export finance, as well as global custody solutions for institutional clients.

We collaborate closely with the Investment Bank to offer capital market and foreign exchange products, hedging strategies and trading capabilities, as well as corporate finance advice. In cooperation with Asset Management, we also provide fund and portfolio management solutions.

→ **Refer to "Working in partnership" in this section for examples of collaboration between the business divisions**

How we serve our clients

We are the recognized digital leader, with the highest online and mobile banking penetration in Switzerland, and continue to invest in a multi-channel distribution model to further enhance our leading position.

We are adapting existing branch formats to suit evolving client needs by converting some locations to smaller, more agile branches that serve as digital support hubs and are intended to ensure a strong local presence along with advice on basic client needs. We aim to further reshape our physical footprint in an innovative and client-centric way, particularly by defining future branch formats with different purposes.

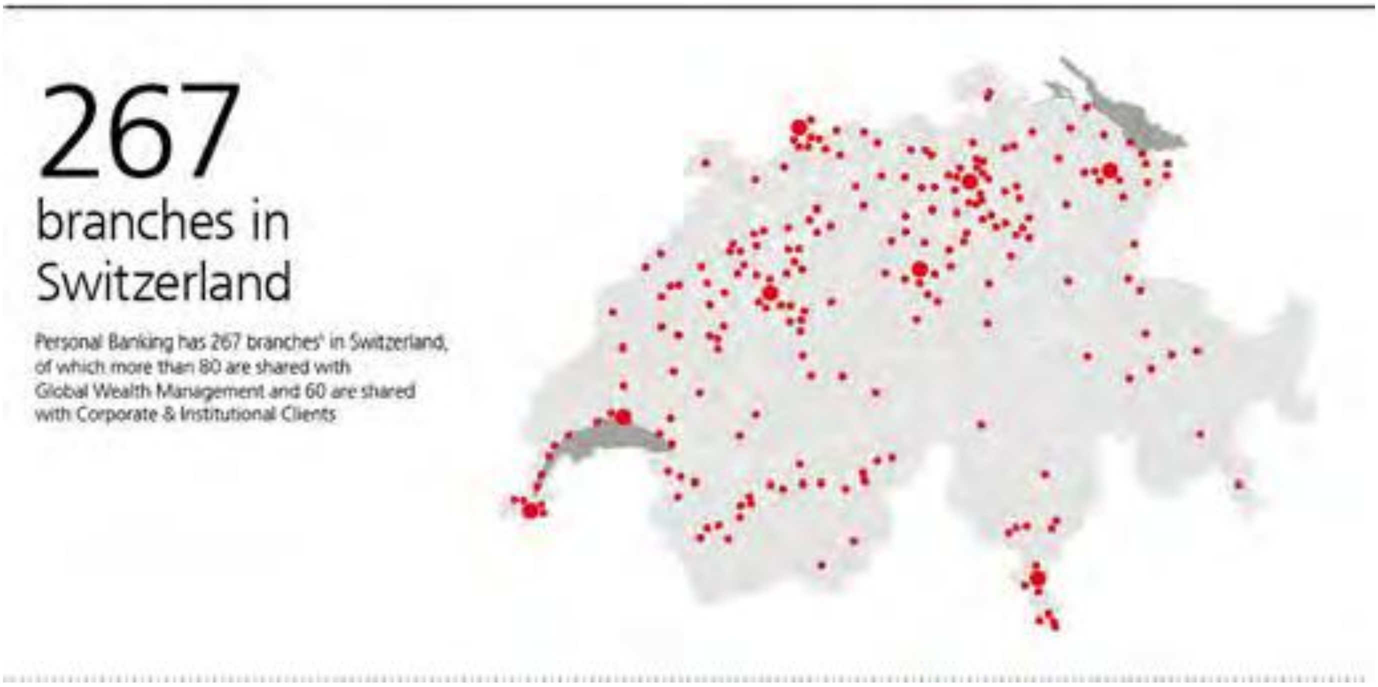
In addition, we continue to provide our expertise to our clients through our contact center and our digital channels, offering basic banking services and transactions. Dedicated client advisors serve personal banking clients who need tailored solutions.

As part of our sustainability road map, we are substantially expanding our offerings. Our personal banking and institutional clients have access to a number of sustainable investment solutions, and we promote innovative approaches for corporate banking clients. For example, we issued the first green bond for a listed company in Switzerland.

For marketing campaigns, we use online media (including social media and search engine advertising), out-of-home media (posters and digital billboards) and, very selectively, print, TV, radio and cinema advertising. In line with our position as a digital leader in Swiss banking, and because of the channel's cost-effectiveness, we follow a digital-first media strategy. More than 50% of our media spending goes into online channels.

How we are organized

Our business division is organized into Personal Banking, Corporate & Institutional Clients, and Digital Platforms & Marketplaces. Geographically, our business, with its 267 branches, is organized into 10 regions, covering distinct Swiss economic areas. We are governed by the executive, risk and operating committees, and operate mainly through UBS Switzerland AG.



1 The size of the circles on the map reflects the number of branches in each location.

Asset Management

UBS Asset Management is a large-scale and diversified global asset manager, with USD 903 billion in invested assets. We offer investment capabilities and styles across all major traditional and alternative asset classes, as well as advisory support to institutions, wholesale intermediaries and Global Wealth Management clients around the world.

Our focus

Our strategy is focused on capitalizing on the areas where we have a leading position to drive further profitable growth and scale.

Sustainable and Impact Investing remains a key area, as clients increasingly seek solutions that combine their investment goals with sustainability objectives. We continue the expansion of our world-class capabilities in areas such as climate-aware solutions. We do this through: product and service innovation; dedicated research; integration of environmental, social and governance factors into our investment processes, leveraging our proprietary analytics; and active corporate engagement.

In response to the increasing importance of private markets and alternative investments, we are building on our existing expertise in these areas, including our hedge fund and real estate businesses, as well as our capabilities across infrastructure, private equity and private debt.

We continue to develop our award-winning[1] Indexed and Alternative Beta business, including exchange-traded funds (ETFs) in Asia Pacific, Europe and Switzerland. We provide customization while leveraging our highly scalable platform, with a particular focus on key areas such as sustainability and fixed income products. Since 2016, the Alternative Beta business has seen growth in invested assets of approximately 85%.

Geographically, we are investing in our leading presence and products in China, both onshore and offshore, one of the fastest-growing asset management markets in the world, building on our extensive and long-standing presence in the Asia Pacific region.

In the rapidly evolving and attractive wholesale segment, we aim to significantly expand our market share through a combination of continued client penetration, expansion of our strategic partnerships with distributors and the build-out of our client service offerings.

→ **Refer to "Clients" in the "How we create value for our stakeholders" section of this report for more information about innovation and digitalization**

To drive further growth in our Investment Solutions business, which provides access to and combines the breadth and depth of our capabilities across public and private markets, we are focused on delivering superior multi-asset strategies and white-label solutions to meet the needs of clients around the world.

We also continue to intensify our cross-divisional collaboration, in particular with Global Wealth Management, to enable our teams to draw on the best ideas, solutions and capabilities from across the firm to deliver superior investment performance and experiences for our clients.

→ **Refer to "Working in partnership" in this section for examples of collaboration between the business divisions**

To support our growth, we are focused on disciplined execution of our operational excellence initiatives. This includes further automation, simplification, process optimization and offshoring / nearshoring of selected activities, complemented by a continued modernization of our platform and development of our analytics and data capabilities.

In January 2020, we announced a number of changes to the operational setup of our Platforms businesses intended to deliver greater scale and breadth of offering for our clients and ensure the ongoing development of these world-class businesses in a highly competitive marketplace. The changes include the proposed sale of a majority stake (51.2%) in UBS Fondcenter to Clearstream, Deutsche Börse Group's post-trade services provider. The sale is expected to close in the second half of 2020, subject to customary closing conditions. In addition, in order to fully leverage the expertise and resources within the wider Group to accelerate the growth of the business, we have decided to transfer *UBS Partner*, our highly innovative white-label technology solution, to the Corporate & Institutional Clients International business within the Personal & Corporate Banking business division. *UBS Partner* will be part of UBS's "The Bank for Banks" client offering, and this is an exciting step in our collaboration efforts across the firm to bring the best of UBS to our clients.

With these changes, we are making a step change in the proposition for our clients, who will have seamless access to expanded platform capabilities, while at the same time enabling us to sharpen our focus on the execution of our strategic priorities.

How we operate

We cover the main asset management markets globally, and have a local presence in four regions: the Americas; Europe, the Middle East and Africa; Switzerland; and Asia Pacific.

Our main competitors are global firms with wide-ranging capabilities and distribution channels, such as Amundi, BlackRock, DWS, Goldman Sachs Asset Management, Invesco, JPMorgan Asset Management, Morgan Stanley Investment Management and Schroders, as well as firms with a specific market or asset class focus.

1 Second largest Europe-based indexed player based on peers' public reporting (UBS calculation, 3Q19) and ranked fourth largest ETF provider in Europe as of December 2019 (source: ETFGI).

What we offer

We offer clients a wide range of investment products and services in different asset classes in the form of segregated, pooled or advisory mandates, as well as registered investment funds in various jurisdictions.

Our traditional and alternative capabilities include equities, fixed income, hedge funds, real estate and private markets, and indexed and alternative beta strategies (including ETFs), as well as sustainable and impact investing products and solutions.

Our Investment Solutions business draws on the breadth of our capabilities to offer: asset allocation and currency investment strategies across the risk / return spectrum; customized multi-asset solutions, advisory and fiduciary services; and multi-manager hedge fund solutions and advisory services.

How we serve our clients

We deliver our investment products and services directly to institutional clients. High net worth and retail clients are served through Global Wealth Management, third-party banks and distributors.

Our teams are based in the key financial markets, bringing our unique perspectives and global expertise to our clients around the world. This, in combination with our presence on the ground, enables our teams to develop long-term relationships with our clients and a deep understanding of their specific needs.

How we are organized

Our business division is organized along five areas: Client Coverage, Investments, Real Estate & Private Markets, Products and the COO Area. We are based worldwide across four regions, with nine main hubs: Chicago, Hong Kong, London, New York, Shanghai, Singapore, Sydney, Tokyo and Zurich.

We are governed by executive, risk and operating committees, supplemented by business unit-specific committees.

Investment Bank

The Investment Bank provides a range of services to institutional, corporate and wealth management clients to help them raise capital, grow their businesses, invest for growth and manage risks. We are focused on our traditional strengths in equities, foreign exchange, research, advisory services and capital markets, complemented by a targeted rates and credit platform. We use our powerful research and technology capabilities to support our clients as they adapt to the evolving market structures and changes in the regulatory, technological, economic and competitive landscapes.

We aspire to deliver market-leading solutions to clients, using our intellectual capital and electronic platforms. We also provide services to Global Wealth Management, Personal & Corporate Banking and Asset Management, while managing our balance sheet, costs, risk-weighted assets and leverage ratio denominator with discipline.

Our capital-light business model allows the Investment Bank to deliver digital, research and banking capabilities, consuming up to one-third of Group resources.

Structural changes in the Investment Bank

In January 2020, we realigned our Investment Bank to meet the evolving needs of our clients and to further focus resources on opportunities for profitable growth and digital transformation. Corporate Client Solutions and Investor Client Services were renamed Global Banking and Global Markets, respectively. Global Banking moves to two product verticals (Capital Markets and Advisory), adopting a global coverage model. Global Markets combines Equities and Foreign Exchange, Rates and Credit, and introduces three product verticals (Execution & Platform, Derivatives & Solutions, and Financing) and three horizontal functions (Risk & Trading, Distribution and Digital Transformation). The new Global Markets structure is designed to facilitate the alignment of business processes and operations and to reduce inefficiencies and duplication. It further permits a more holistic understanding of our clients' cross-product needs and is designed to foster tighter coordination of client coverage and distribution. This will allow for improved oversight of key risks and the allocation of resources. Investment Bank Research and UBS Evidence Lab Innovations continue to be a critical part of our advisory and content offering.

The changes are effective 1 January and we will provide restated prior-period information in advance of our first quarter 2020 results.

Our focus

Our key priority is disciplined growth in the capital-light advisory and execution businesses, while accelerating our digital transformation. Global Banking has a global coverage model and will utilize its deep global industry expertise to meet the emerging needs of its clients. In Global Markets, we are focused on clients' expectation of excellence in execution, financing and structured solutions.

Our digital strategy is led by our businesses, which harness technology to deliver superior and differentiated client service and content. We established the *UBS Investment Bank Innovation Lab* to speed up innovation by facilitating proofs of concept. In Global Markets, the new Digital Transformation horizontal function facilitates adoption of best-in-class practices around trade idea generation, liquidity management, pricing tools and risk management. In Investment Bank Research, we continue to build *UBS Evidence Lab Innovations* to concentrate on data-driven outcomes.

Our balanced global reach gives us attractive options for growth across various regions. In the Americas, the largest investment banking fee pool globally, we are focusing on increasing our market share in our core Global Banking and Global Markets businesses.

In Asia Pacific, we see opportunities primarily from expected market internationalization and growth in China. We are planning to grow by further strengthening Global Banking, both onshore and offshore. Partnerships between the Investment Bank's businesses and the Group, including the creation of a unified capital markets group, and, externally, joint ventures such as that with Banco do Brasil, are a key strategic focus. These initiatives should lead to growth by delivering global products to each region, leveraging our global connectivity across borders and sharing and strengthening our best client relationships.

→ **Refer to "Working in partnership" in this section for examples of collaboration between the business divisions**

How we operate

Our geographically balanced business has a global reach, with a presence in more than 30 countries and principal offices in the major financial hubs.

Competing firms are active in many of our markets, but our strategy differentiates us, with its focus on leadership in the selected areas where we have chosen to compete, and a business model that leverages talent and technology rather than balance sheet.

Our main competitors are the major global investment banks, including Morgan Stanley, Credit Suisse and Goldman Sachs, as well as corporate investment banks, including Bank of America, Barclays, Citigroup, BNP Paribas, Deutsche Bank and JPMorgan Chase. We also compete with boutique investment banks and fintech firms in certain regions and with regard to certain products.

Through strategic partnerships with Global Wealth Management and Asset Management, we provide clients with broad access to financing, global capital markets and portfolio solutions.

→ **Refer to "Working in partnership" in this section for examples of collaboration between the business divisions**

What we offer

Through our Global Banking business, we advise our clients on strategic business opportunities and help them raise capital to fund their activities.

Our Global Markets business enables our clients to buy, sell and finance securities on capital markets across the globe and to manage their risks and liquidity. Furthermore, in Investment Bank Research, we offer clients key insights on major financial markets and securities around the globe. Separately, our team of experts in UBS Evidence Lab Innovations specializes in creating insightful data sets on diverse topics for companies of all sizes, spanning more than 30 countries and 50 sectors. We seek to develop new products and solutions that are consistent with our capital-efficient business model. These are typically related to new technologies or changing market standards.

→ **Refer to "Clients" in the "How we create value for our stakeholders" section of this report for more information about innovation and digitalization**

Since 2005, we have addressed increasing client demand for sustainable investing by providing thematic and sector research. We also provide investment solutions through socially responsible and impact exchange-traded funds and index-linked notes. In addition, we offer capital-raising and strategic advisory services globally to companies that make a positive contribution to climate change mitigation and adaptation.

How we serve our clients

We interact with our clients digitally and in person. In Global Banking, we leverage our intellectual capital and relationships to deliver high-quality solutions for our clients. In Global Markets, we use our execution capabilities, differentiated research content, bespoke solutions, client franchise model, and our global platform to expand coverage across a broad set of institutional and corporate clients. In Investment Bank Research, we deliver high-quality differentiated research to our institutional clients using a wide range of methods, including *UBS Neo*, our multi-channel platform.

How we are organized

Our business division is organized into the following three units: Global Banking, Global Markets, and Investment Bank Research and UBS Evidence Lab Innovations. We are governed by the executive, operating, risk, and asset and liability committees. Each business unit is organized globally by product.

Corporate Center

Our Corporate Center provides services to the Group, with a focus on effectiveness, risk mitigation and efficiency. Corporate Center also includes the Non-core and Legacy Portfolio unit.

How we are organized

Corporate Center

The major areas within Corporate Center are Group Chief Operating Officer (Group Technology, Group Corporate Services, Group Human Resources and Group Operations), Group Treasury, Group Finance, Group Legal, Group Risk Control, Group Communications & Branding, Group Compliance, Regulatory & Governance, *UBS in society*, and Non-core and Legacy Portfolio.

Over recent years, we have progressively aligned our support functions with our business divisions. We operate the Group with the vast majority of these functions either fully aligned or shared among business divisions, where they have full management responsibility. By keeping the activities of the businesses and support functions close together, we increase efficiency and create a working environment built on a culture of accountability and collaboration

The Non-core and Legacy Portfolio, a small residual set of activities in Group Treasury and certain other function costs mainly related to deferred tax assets and costs relating to our legal entity transformation program are retained centrally.

Since our first quarter 2019 report and in compliance with IFRS 8, *Operating Segments*, we provide results for total Corporate Center only and do not separately report Corporate Center – Services, Group Asset and Liability Management (Group ALM) and Non-core and Legacy Portfolio. Furthermore, we have combined Group Treasury operationally with Group ALM and call this combined function Group Treasury.

→ **Refer to the "Significant accounting and financial reporting changes" section and "Note 1 Summary of significant accounting policies" in the "Consolidated financial statements" section of this report for more information about the changes in the structure of Corporate Center**

Group Treasury

Group Treasury manages the structural risk of our balance sheet, including interest rate risk, structural foreign exchange risk and collateral risk, as well as the risks associated with our liquidity and funding portfolios. Group Treasury serves all business divisions and its risk management is fully integrated into the Group's risk governance framework.

Non-core and Legacy Portfolio

Non-core and Legacy Portfolio manages legacy positions from businesses exited by the Investment Bank, following a largely passive wind-down strategy. It is overseen by a committee chaired by the Group Chief Risk Officer. The portfolio also includes positions relating to legal matters arising from businesses that were transferred to it at the time of its formation.

→ **Refer to "Note 21 Provisions and contingent liabilities" in the "Consolidated financial statements" section of this report for more information about litigation, regulatory and similar matters**

Our environment

Current market climate

Global economic developments in 2019

In a year characterized by strong equity markets, ultra-low volatility and an inflection in interest rates, the pace of the global economy slowed on a broad basis in 2019. World GDP grew by 3.1%, which was substantially lower than the 3.7% growth achieved in 2018 and represents the weakest growth rate since the financial crisis.

US GDP increased 2.3%, compared with 2.9% in 2018, as trade tensions between the US and China hindered business investment and the boost from tax cuts introduced in December 2017 ebbed.

Trade tensions represented an even more serious drag on growth in the eurozone, which relies more than the US on global trade, manufacturing output, and business investment. Growth in the eurozone decreased to 1.2% in 2019, compared with 1.9% in 2018. Germany's economy expanded by only 0.6%, after a 1.5% increase in the previous year. Outside the Eurozone, Swiss growth decreased as well, to 0.8%, compared with 2.8% in 2018.

China's government attempted to partially offset the effects of increasing tariffs on its exports to the US by reducing bank reserve requirements and providing extra fiscal leeway to local governments. However, this stimulus was limited by concerns over high leverage in the economy. GDP growth decreased to around 6.1%, compared with 6.7% in 2018.

In other leading emerging economies, growth slowed or stabilized at low levels. The economy of India, which until recently had been one of the world's fastest-growing major nations, expanded by 5%, compared with 6.1% in 2018. Momentum was weakened by the problems of the shadow-banking sector, which has been reducing the availability of credit to consumers. The Mexican economy, meanwhile, was roughly flat after expanding 2% in 2018, and Brazil's growth rate decreased to 1.1% from 1.3%.

Major central banks were able to keep their accommodating monetary policies in place in 2019, given that low inflation rates persisted. Eurozone inflation stayed below the European Central Bank's (the ECB) target (of at or below 2%), at around 1.2% for the year. The ECB cut its deposit rate from negative 0.4% to negative 0.5%. US inflation was close to the target at 1.8%, permitting three quarter-point rate cuts over the course of the year to between 1.5% and 1.75%.

Equity markets rallied, with all major indices advancing. The MSCI All Country World Index gave a total return of 27% in US dollars. The S&P 500 index in the US returned 31%, while the technology-heavy Nasdaq Composite gained 37%. China's CSI 300 was up 41% in local currency terms. Less well-performing markets included the UK's FTSE 100 and Hong Kong's Hang Seng, which both returned 17% in local currency terms.

It was also a favorable year for investors holding government bonds. The yield on 10-year US Treasury bonds fell around 80 basis points to 1.9%. The yield on the German Bund of the same tenor fell 40 basis points to negative 0.2%.

Economic and market outlook for 2020

We expect continued sub-trend growth in the coming year, and the global economy to continue expanding at about the same pace as in 2019. Consumer spending has remained robust in much of the world, especially in the US, where it is supported by a vibrant job market. The year ended with news of a "Phase 1" trade deal between the US and China, along with indications that tensions between the two powers may lessen. Not only did the agreement withdraw planned tariff increases and reverse some existing tariffs, it also moved negotiations forward in other areas of contention, such as intellectual property protection and US access to China's financial services market. While this truce could be fragile and the US–China rivalry is not about to end anytime soon, the deal appears to reduce the risks to the global economy and business investment.

The UK left the European Union on 31 January 2020 and has entered a transition period in which the UK now faces a race to conclude talks on a trade deal with the EU ahead of the end of its transition period on 31 December 2020.

The next major political focus for markets will be the US election in November, which could generate higher volatility and affect key US sectors, such as technology, energy, finance and health care.

Against a backdrop of sluggish growth and continued political risk, we believe central banks will be in no rush to raise rates. We do not expect the US Federal Reserve to increase rates in the coming year, barring an unexpected shift in the trajectory of the economic data. Rates are unlikely to rise again until 2021. We expect the ECB to cut rates to negative 0.6%, with the Swiss National Bank maintaining rates at a negative 0.75%.

The outbreak of novel Coronavirus or Covid-19 in China and its subsequent spread to other countries is likely to increase investor uncertainty. Although our base economic forecast is that the outbreak of Covid-19 will be contained and the effect on full-year economic growth will be relatively limited, the virus and containment measures are likely to have at least a short-term adverse effect on economic activity in China and other affected countries, with a collateral impact on the global economy. A significant rise in the number of Covid-19 infections, infections in a wide range of countries and regions, or a prolongation of the outbreak, could increase the adverse economic effects.

In terms of investing, stocks in most major markets are trading above historical averages on a price-to-earnings basis. As a result, we believe equity market returns are more likely to be driven by earnings growth than by a further expansion of multiples. Markets should also be supported by continuing economic growth in 2020. The risk of a recession remains relatively low. Uncertainty over the effects of the Covid-19 outbreak has substantially increased the macroeconomic risk to growth and this increased risk has at least partially been reflected in recent declines in equity markets.

Industry trends

While our industry was heavily affected by regulatory developments over the past decade, technology has clearly emerged as the main driver of change today and is expected to further affect the competitive landscape as well as our products and operations going forward. In parallel, our industry is materially driven by market and macroeconomic conditions.

→ **Refer to "Current market climate" in this section for information about global economic growth**

Digitalization

Technology is changing the way banks operate and we expect this to continue, in step with exponential advances in computing capability, evolving customer needs and digital trends. Investment in technology is no longer solely considered a means of making banks more efficient. Today, such investment is the key to keeping banks flexible and competitive in a digitalized world, and it creates the opportunity to develop new business models.

By connecting across the financial industry ecosystem through our innovation labs, digital factories, Future of Finance initiatives, and project collaborations, we aim to remain at the forefront of the digital movement to drive client experience as well as operational excellence. At the heart of our digital journey is the focus on our clients and their evolving needs. The speed, scale, security, transparency and precision that new technologies can offer enable us to create new services and experiences for our clients.

We also aim to improve operational efficiency by increasing the range of modernized and modularized applications and infrastructure in our IT portfolio, as well as by leveraging cloud technology and a growing number of front-to-back automated systems and processes. Effective data management and protection are crucial to us. The generated and curated data from our applications is protected under our data management framework, and supports the development of responsible artificial intelligence for better tailoring our client and employee experience.

Consolidation

In the financial services industry, many regions and businesses are still highly fragmented. We expect further consolidation, with ongoing margin pressure, the search for cost efficiencies and increasing scale advantages resulting from the fixed costs of technology and regulation being the key drivers. Many banks also seek increasing exposure and access to regions with attractive growth profiles, such as Asia and emerging markets, through local acquisitions or partnerships. Lastly, the increased focus on core capabilities or geographical footprints and the ongoing simplification of business models to reduce operational and compliance risks will result in further disposals of non-core businesses and assets.

New competitors

Our competitive environment is also evolving. In addition to our traditional competitors in the asset-gathering businesses, new entrants are targeting selected components of the value chain. However, we have not yet seen a fundamental unbundling of the value chain and client relationships, which might ultimately result in the disintermediation of banks by new competitors. Over the longer term, we believe the entry into the financial services industry of large platform companies could pose a significant competitive threat, given their strong client franchises and access to client data. Fintech firms are gaining momentum; however, they have not materially disrupted our asset-gathering businesses to date. We see a trend in forging partnerships between new entrants and incumbent banks, with the latter acquiring technology from fintech firms, thus gaining an edge over competitors in terms of technology, cost efficiency, and service quality.

Regulation

The post-2008 regulatory reform agenda has largely been completed. While some areas, such as funding in resolution, must still be fully addressed, and the implementation of certain standards, such as the finalized Basel III capital standard, is continuing on a national level, the focus is shifting from regulation to supervision. In parallel, some regulators are reviewing the efficiency of the new frameworks.

In general, regulatory-driven change continues to consume substantial resources. In 2020, we expect further consideration of adjustments to the Swiss too-big-to-fail framework, in particular focused on additional liquidity requirements for systemically important banks, and the national implementation of final Basel III rules. We expect continued work on resolution-related reforms, including stress testing, and a sustained focus on conduct and anti-money laundering. Furthermore, we are experiencing a surge in sustainability-related policy proposals targeted at various aspects of financial services across the globe. We also expect regulatory initiatives to address some of the more recent challenges that could affect financial stability, such as shadow banking and digital currencies.

Many of these developments are happening in the context of increased protectionism, posing challenges to the provision of cross-border financial services. Further restrictions with regard to market access into the EU in particular would have a significant effect on Switzerland as a financial center, affecting also UBS. Variations in how different countries implement rules, and an increasing national focus, bring a risk of additional regulatory fragmentation, which in turn may lead to higher costs for us and new financial stability risks.

However, we believe the adaptations made to our business model and our proactive management of regulatory change put us in a strong position to absorb upcoming changes to the regulatory environment.

→ **Refer to the "Regulatory and legal developments" section of this report for more information**

Wealth creation

In 2018, global wealth overall grew marginally, given a steep decline in equity market performance in the fourth quarter. This trend was partially reversed in 2019, as equity markets rallied. Today, half of global wealth is concentrated in the Americas, followed by Asia Pacific (with approximately 30%) and the remainder in Europe, the Middle East and Africa.[1] By segment,[2] approximately half of global wealth is with high net worth individuals, ultra high net worth individuals hold approximately 30% of global wealth, and the remaining approximately 20% is within the affluent segment. Over the next four years, global wealth is expected to grow by 5–10% annually.[1] Regionally, wealth creation will likely be driven by Asia Pacific and North America. The share of the Americas is expected to remain stable over the next four years at approximately 50% of global wealth, while the share of Europe, the Middle East and Africa is expected to further reduce as Asia Pacific grows. In particular, China's share of global wealth is expected to grow to around 15% by 2023.

Wealth transfer

Demographic and socioeconomic developments continue to generate shifts in wealth. By 2030 for example, USD 15.4 trillion of global wealth is expected to be transferred by individuals with a net worth of USD 5 million or more, according to a 2019 report by Wealth-X.[3] In addition, women now control more wealth than ever before: UBS's 2019 report titled "The billionaire effect – Billionaires insights 2019" found that the number of female billionaires had grown by 46% in five years, outpacing the growth of male billionaires. We are responding to the evolving wealth landscape with a framework that addresses all aspects of our clients' financial lives, called *UBS Wealth Way*. *UBS Wealth Way* begins with discovery questions and a conversation with clients about what is most important to them. We help clients organize their financial life along three key strategies: *Liquidity* to help provide cash flow for short-term expenses; *Longevity* for long-term needs; and *Legacy* for needs that go beyond their own and help improve the lives of others, a key part of wealth transfer planning.

Shift into passive strategies

We note a continuing trend of separation between low-cost, passive strategies and high-alpha active and alternative strategies. Passive management is beneficial in an environment with rising stock markets, such as the equity bull markets of the last decade. At the same time, central banks' monetary policies have kept interest rates at historically low levels, which has had an effect on bond yields and other asset classes. Investors searching for longer-term higher alpha than passive strategies can provide have been diversifying their portfolios into real assets and alternatives and we expect this trend to continue. We believe the breadth of UBS Asset Management's investment expertise allows us to meet client demands across asset classes and strategies.

Retirement funding

Over recent years, the pension industry has faced two key challenges: fundamental demographic shifts, such as aging populations, and lower expected returns due to all-time low interest rates.

Beyond structural answers to these challenges, such as the progressive shift from defined benefit to defined contribution pensions, we believe pension funds are reassessing their asset allocation approach. Indeed, many pension funds are now allocating a higher share of their portfolios to alternative investments, such as private equity, hedge funds, real estate and infrastructure, in a search for higher-yielding exposures.

We see this development as positive for UBS, as these funds will likely need further support to define their investment strategy and target portfolio allocation. In addition, our private banking and wealth management clients are expected to need further financial and retirement planning advice, which we are able to provide holistically through our wealth planning services.

1 Based on BCG Global Wealth Report 2019.
2 The BCG Global Wealth Report 2019 defines wealth segmentation as follows: wealth of greater than USD 20 million to be classified as ultra high net worth individuals; USD 1–20 million for high net worth individuals; USD 0.25–1 million for affluent individuals.
3 A Generational Shift: Family Wealth Transfer Report, issued by Wealth-X in 2019.

How we create value for our stakeholders

Stakeholder group	Stakeholder needs: what do our stakeholders expect from us?	Value proposition: how we create value for our stakeholders	Key topics discussed: what was important to our stakeholders in 2019	Stakeholder engagement: how did we engage with our stakeholders?
Clients	Advice on a broad range of products and services from trusted experts The option of personal interaction with our advisors in combination with digital service anywhere, anytime (convenient digital banking) Top quality solutions and the highest standards in terms of asset safety, data and information security, confidentiality and privacy A combination of global reach and local service resulting in positive investment outcomes Competitively priced products and services	Delivering tailored advice and customized solutions, using our intellectual capital and digital capabilities Building long-term personalized relationships with our clients Developing new products and services in response to clients' evolving needs in the digital age Providing access to the world's capital markets and bespoke financing Meeting increasing demand from clients for sustainable investments	Investment performance in light of current interest rate situation Holistic goals-based financial planning Sustainable finance and investing possibilities Data privacy and security Offerings for small enterprises in Personal & Corporate Banking	Individualized client meetings Requests for regular client feedback, feedback monitoring and complaints handling Specialized client events and conferences including information on key developments and opportunities Client satisfaction surveys
Investors	Disciplined execution of our strategy leading to attractive capital returns through dividends and share repurchases Comprehensive and clear disclosures on quantitative and qualitative data necessary to make an informed investment decision Recognize and proactively address strategic opportunities and challenges	Executing our strategy with discipline and agility as the external environment evolves, while aiming to deliver cost- and capital-efficient growth Providing transparent, timely and reliable public disclosures	Structural growth and return potential in our businesses Cost efficiency and ability to generate positive operating leverage Ability to protect or even grow revenues in a low-for-longer interest rate environment	Financial reports, investor and analyst conference calls, and/or webcasts, as well as media updates on our performance or other disclosures General shareholder meetings Investor and analyst meetings
Employees	A world-class employer providing an engaging and supportive workplace culture Skill and career development opportunities and rewards for performance An environment that provides a sense of belonging and of adding value to clients and to society	Attracting and developing great talent Fostering a workplace culture that supports and engages our employees, enabling them to develop their careers and unlock their full potential	The three keys to a strong corporate culture Our approach to hiring great people and supporting their growth The importance of diversity and inclusion	Regular employee surveys Group Franchise Awards program Regular "Ask the CEO" events, along with senior leadership, regional and functional employee sessions
Society	Facilitation of economic development that is sustainable for the planet and humanity Maximization of our positive effect and minimization of any negative effects on society and the environment Proactive management of the environmental and societal impacts of our business	Promoting significant and lasting improvements in the well-being of communities in which we operate Taking an active role in the transition of our economy toward environmentally and socially sustainable solutions	Sustainable finance Our climate strategy Our client and corporate philanthropy efforts	Dialogs with regulators and governments Partnerships with social institutions Community investments Interaction with NGOs Participation in forums and round tables, as well as industry-, sector- and topic-specific debates

Clients

Our clients are the heart of our business. We are committed to building and sustaining long-term relationships based on mutual respect, trust and integrity. Understanding our clients' needs and expectations enables us to best serve their interests and to create value for them.

Our clients and what matters most to them

There is no archetypal UBS client. Our clients have varying needs, but each of them expects outstanding advice and service, a wide range of choices, and an excellent client experience.

Global Wealth Management is focused on serving the unique and sophisticated needs of high net worth and ultra high net worth individuals, families, and family offices around the world, as well as affluent clients in selected markets. We provide these clients with access to outstanding advice, service, and investment opportunities from around the globe, delivered by experts they can trust. Using a holistic, goals-based approach to financial planning, we deliver a personalized wealth management experience and work side-by-side with clients to help them realize their ambitions.

Our client-facing advisors and the global teams that support them are focused on developing long-term client relationships, which often span generations. Global Wealth Management clients look to us for our expertise in helping them to plan for, protect and grow their wealth, as well as helping them make some of the most important decisions in their lives. From significant liquidity events to professional milestones and personal turning points, we aim to give our clients the confidence to move forward and achieve their goals. Through extensive research into our clients' preferences and goals, as well as broader analysis of investor sentiment globally, we are constantly evolving our offerings to meet the shifting priorities of today's wealthy clients. This includes investing in digital capabilities and developing products that help clients fund their lifestyles and manage their cash flow, as well as offering guidance on how clients can create a lasting and positive impact for their communities and the causes about which they care the most. We have been recognized as the leading global wealth manager for clients interested in sustainable investing,[1] with a commitment to developing solutions that allow clients to align their financial goals and their personal values.

→ **Refer to "Our focus on ESG" in this section for examples of how sustainable finance solutions are used across our business divisions and for the benefit of our clients**

Personal & Corporate Banking serves a total of approximately 2.6 million individuals and 128,000 firms. We provide services to companies ranging from start-ups to large multi-nationals, including specialized entities, such as pension funds and insurers, real estate companies, commodity traders, and banks. Personal & Corporate Banking clients look for financial advice based on their needs at each stage of their individual or corporate journey. We aim to deliver outstanding advice to them via our client advisors and also through digital banking. Our clients demand convenience, 24/7 availability, security and value for money. We provide clients with access to a broad range of services and products offered in all relevant areas: basic banking, investing, financing (including mortgages), retirement planning, cash management, trade and export finance, global custody, and company succession, among others.

In Asset Management, we deliver investment products and services directly to approximately 3,000 clients around the world – including sovereign institutions, central banks, supranational corporations, pension funds, insurers and charities – as well as to Global Wealth Management and its clients, wholesale intermediaries and financial institutions. Our clients seek global insights and a holistic approach to tailoring solutions. By building long-term, personalized relationships with our clients and partners, we aim to achieve a deep understanding of their needs and to earn their trust. We draw on the breadth and depth of our global investment capabilities – across traditional and alternative, active and passive categories – and provide seamless access to world-class platform services to deliver the solutions they need. We integrate sustainability into our financial analysis enabling us to help clients meet their sustainability objectives and their fiduciary duties.

The Investment Bank provides corporate, institutional and wealth management clients with expert advice, financial solutions, execution, and access to the world's capital markets. Our business model is specifically built around our clients and their needs. Corporate clients can access advisory services, debt and equity capital market solutions, and bespoke financing through our newly reshaped Global Banking business. Meanwhile, our Global Markets business is focused on helping institutional clients engage with local markets around the world, offering equities and equity-linked products, foreign exchange, rates and credit.

→ **Refer to "Investment Bank" in the "Our businesses" section of this report for more information about the structural changes in the Investment Bank**

Our advisory and content offering is underpinned by the research we provide. The differentiated nature of this research, combined with *UBS Evidence Lab Innovations*, which offers access to insight-ready data sets for thousands of companies, aims to give clients an informational edge when it comes to understanding markets. As a new offering for 2019, we have established the *UBS Research Academy*, where our fundamental analytics team provides training for institutional investors on all aspects of fundamental investing, leveraging the best of the *UBS Research* and *UBS Evidence Lab Innovations* platforms.

[1] Euromoney Private Banking and Wealth Management Survey 2019: Global Results.

Our clients place the highest priority on the confidentiality and security of their data. The protection of our clients' data is of the utmost importance to us and we have comprehensive measures in place designed to ensure that data confidentiality and integrity are maintained. We are investing in our IT platform to preserve and improve our IT security standards, while enabling our clients to have secure access to their data via our digital channels. The volume, level of sophistication and impact of cyberattacks constantly increase, and we aim to maintain a robust and agile cybersecurity and information security program to manage cyber risk.

Enhancing the client experience through innovation and digitalization

We strive to streamline and simplify interactions with our clients through front-to-back digitalization and innovations.

In Global Wealth Management, we develop and deploy digital tools that preserve and enhance the value of human relationships. Clients expect the convenience and speed that technology offers but, simultaneously, consider personal communication with our advisors to be more important than ever. Modern technology that our advisors use enables them to spend more time with clients. And our clients appreciate digital tools that improve their experience, such as easy ways to view their portfolios, access to research that is tailored to their needs, and multiple ways to communicate with their advisors. In 2019, we introduced a number of new tools to help deliver on those expectations. For example, our *Asset Wizard* platform provides ultra high net worth clients in the US with consolidated and sophisticated performance and risk analytics for their assets held at UBS and across multiple banks, portfolios, managers, and locations. Also, in Asia, we launched the *UBS Advisor Messaging* for WhatsApp, allowing for real-time conversations between clients and advisors, to create a better client experience. And we continue to make progress by executing our multi-year strategy to serve clients globally from two platforms: the *Wealth Management Americas Platform* in the US and the *Wealth Management Platform* outside the US. Our core investment solutions consist of: *UBS Manage*, a discretionary mandate solution where we use our expertise to invest clients' assets according to a predefined investment strategy; *UBS Advice*, which adds portfolio monitoring and investment recommendations based on an agreed investment strategy to self-directed accounts; and *UBS Transact*, a self-directed account providing clients access to UBS execution capabilities and the *UBS House View*. All our solutions draw on our broad range of investment instruments across stocks, bonds, currencies, structured products, investment funds and alternative investments.

Personal & Corporate Banking launched several initiatives in 2019. Effective 1 November 2019, we have established a new business area, *Digital Platforms & Marketplaces*, which reflects our commitment to engage in new digital business models. In addition to the mortgage platform *UBS Atrium*, which we launched in 2017 and is directed at corporate and institutional clients, UBS is set to introduce a mortgage platform for private clients in the first half of 2020. We launched new tools for our client advisors aimed at improving the in-branch advisory experience for clients, so that we are able to suggest the right products that match the clients' needs. Thanks to our new mortgage workflow, we have been able to reduce contracting time substantially, from 10–15 days for extensions to 24 hours. We also further simplified our digital banking platform (for both mobile and desktop) and added new services, in addition to expanding the number of possible payment transaction currencies to more than 120. Our clients can now pay in stores directly with their smartphones and a wide array of wearables via *Mobile Pay* and *Swatch Pay*. Furthermore, we have introduced the ability to pay parking fees via *Twint*, which has more than 1.5 million users in Switzerland. As of October 2019, our clients can access *we.trade*, a blockchain-based trade finance platform, which was the first such platform to be launched by a Swiss bank. Recognizing changing client needs and growing demand from start-up companies for a broader offering, we have launched *UBS Start Business*, which includes digital accounting, mentoring for business planning, and many other services in addition to the banking services UBS offers. The attractive offering aims to assist young entrepreneurs in every stage of their business's journey. Similarly, we bundle our digital offering for small companies in *UBS Digital Business*, which provides the convenience and leading digital solutions that small companies look for. We have also introduced our vendor leasing solution, an online tool that allows vendors to provide leasing proposals directly to their clients (based on online credit decisions) and to generate contracts. For corporate clients, we have made available the new *UBS Payment Tracking* service (SWIFT global payments innovation).

In Asset Management, we are investing in new tools and technologies, as well as our alternative data capabilities, to support our teams' investment decision-making processes and enhance client service. In addition, our operational excellence programs are focused on building a scalable and globally integrated operating platform to better enable our teams to deliver the full breadth of our capabilities to clients around the world.

The Investment Bank strives to be the digital investment bank of the future, with innovation-led businesses that drive efficiencies and solutions. We set up the *UBS Investment Bank Innovation Lab* to help connect business teams in order to leverage best practice, build and test proofs of concept safely and quickly, and inspire a culture of innovation. We see increasing interest from clients in financial and alternative data sets that they can incorporate into their models. In response, we set up *UBS Data Solutions* to meet those needs through a centralized robust data processing and distribution platform.

We strive to develop new products and solutions that are consistent with our capital-efficient business model. These are typically related to new technologies or changing market standards. Examples include *FX spot & STIR tree E-pricing*, which provides client-tailored pricing streams and hedging optimization, and *Technology Enabled Sales*, which enables faster delivery and distribution of tailored content matched to our clients' interests. During 2019, we also launched the client portal of *UBS Evidence Lab Innovations* as part of the firm's strategy to expand our value proposition in the alternative data space, which relates to innovative ways to capture data critical for investment decisions. We also set up *UBS Neo*, our multi-channel platform, and the *One Client* service model, which aims to drive superior client outcomes via collaboration, technology and data-driven client intelligence.

Engaging with our clients

Communication with our clients enables us to understand their needs and what matters most to them. We use a variety of channels to engage with clients, including regular client relationship / service meetings where we monitor feedback and satisfaction, as well as various corporate roadshows and dedicated events. We also engage with our clients while supporting cultural and sports events across Switzerland.

We conduct client events on a regular basis and on a wide array of topics. For example, in Personal & Corporate Banking, we have financing and retirement planning events, and a dedicated event for the CFO community. In the Investment Bank, we host around 350 conferences and educational seminars globally throughout the year, covering a broad range of macro, sector, regional and regulatory topics. More than 50,000 clients attended such events in 2019, providing insight and access to our own opinion leaders, policy makers and leading industry experts. In Global Wealth Management, we engage with clients in a range of ways, from personalized private briefings with subject matter experts, to segment-specific events, to large-scale gatherings such as *UBS Wealth Insights*, our flagship Pan-Asian investment forum series, which attracts more than 3,000 clients every year. In Asset Management, a consistent program of engagement takes place throughout the year. Thematic events, such as the *UBS Reserve Management Seminar* and the *Sovereign Investment Circle*, bring together institutional investors to debate relevant topics and share best practices. Our experts also produce insightful thought leadership on markets and assets that is regularly shared with clients, as well as frequently meeting investors to answer questions, clarify the investment strategy or discuss issues that can affect markets.

How we measure client satisfaction

We utilize different measures to regularly assess our achievements and the satisfaction of our clients.

Global Wealth Management is increasingly leveraging technology and analytics software to collect client feedback. In 2019, we began introducing a digital feedback tool to supplement more traditional survey methods. The tool allows Global Wealth Management to survey clients about their satisfaction with their advisors and UBS, as well as to identify additional financial needs. Advisors are provided with real-time access to client feedback, enabling them to address concerns and to follow up on new topics of interest. The tool was piloted in selected markets in 2019 and is expected to be rolled out more broadly throughout 2020.

We conduct an annual client survey in Personal & Corporate Banking. We have been conducting client surveys in Switzerland since 2011, consistently covering all private and corporate client segments annually since 2015. Clients assess their satisfaction with regard to various topics (e.g., UBS overall, branches, client advisors, products, services) and indicate further product or advisory needs. Survey responses are distributed to client advisors, who subsequently follow up with each respondent individually. In 2019, we introduced a new machine learning model which enables us to identify the importance of internal factors (e.g., advisors, products, prices) and external factors (e.g., media impact, market development) with regard to overall satisfaction scores.

In Asset Management, we conduct regular surveys, inviting institutional and wholesale clients across all our markets to participate. They are asked about their satisfaction with client service, products and solutions, as well as other factors relevant to their investments. The results are analyzed to identify focus areas to improve client satisfaction.

For the Investment Bank, client satisfaction is closely monitored by individual product coverage points. Relationship managers then collate and review feedback holistically, conducting regular internal review sessions to address specific areas of feedback. The Investment Bank also closely monitors external surveys, such as the Global Institutional Investor Survey, which provides feedback across a range of investment banking services.

We thoroughly evaluate the feedback we receive, including complaints from clients, and take measures to address key themes identified. In 2019, clients specifically raised sustainable finance as a key priority, which provided confirmation that we are aligned with our clients' preferences in expanding our sustainable finance offering.

Our focus on ESG

Our firm is in a powerful position to contribute toward achieving the 17 United Nations (UN) Sustainable Development Goals (the SDGs) by integrating sustainability in our mainstream offerings, through new and innovative financial products with a positive effect on the environment and society, and by advising our clients on their philanthropic works. Our goal is to be the financial provider of choice for clients who wish to mobilize capital toward the achievement of the SDGs and the orderly transition to a low-carbon economy. We are shaping the landscape of sustainable finance by using thought leadership, innovation and partnerships to support clients in their sustainability efforts.

Our clients are increasingly interested in sustainable finance, including sustainable investing (SI), which is especially attractive if it can reduce risk or improve returns. More than 80% of wealthy individuals are interested in sustainable investing and 45% already hold sustainable investments.[1] With regard to asset owners across the globe, 78% are integrating environmental, social and governance (ESG) factors into their investment process.[2] Switzerland, for example, saw an 87% asset growth in institutional sustainable investments in 2018 (compared with 2017),[3] and the early indicators are that this growth continued throughout 2019.

Our key public commitments to sustainable finance

In 2019, we became a founding signatory of the UN Principles for Responsible Banking (the Principles). The Principles constitute a comprehensive framework for the integration of sustainability across banks. They define accountabilities and require each bank to set, publish and work toward ambitious targets.

Before signing up to the Principles, UBS had already been strongly committed both to maximizing positive effects through our sustainable business activities and to minimizing negative impacts. While our firm's growing range of sustainable finance products and services supports the former, our environmental and social risk framework helps us to better understand and respond to potential risks to the environment and human rights.

Our Asset Management business division is among the signatories of the PRI (the Principles for Responsible Investment). The PRI organization supports the signatories in incorporating ESG factors into their investment and ownership decisions. In 2019, UBS also became one of the inaugural members of the CEO Alliance on Global Investors for Sustainable Development, which is committed to scaling up and speeding up efforts to align business with the SDGs. The Alliance is aimed at harnessing the insights of private sector leaders on ways to remove impediments and introduce solutions for scaling long-term investment for sustainable development in line with the SDGs.

Since 2017, we have presented white papers to the World Economic Forum (the WEF) putting forward recommendations for ways in which private capital can achieve the SDGs, while also outlining our own actions and pledges in that regard. For the WEF annual meeting in 2020, our white paper focused on climate action and the ways in which investors can mobilize private and institutional capital toward the orderly transition to a low-carbon economy. In response, UBS has developed a Climate Aware framework.

We actively support the development of industry standards. In 2019, we contributed to the writing of and signed the International Finance Corporation's Operating Principles for Impact Management. These Impact Principles provide a standard for impact investing, in which investors seek to generate positive impact for society alongside financial returns. We also contributed to a report by the Sustainable Finance Working Group of the Institute of International Finance on sustainable investment terminology.

→ **Refer to the Sustainability Report 2019, available from 5 March 2020 under "Annual reporting" at *www.ubs.com/investors*, for our key documents, frameworks and external commitments, and for our climate disclosure following the recommendations of the Task Force on Climate-related Financial Disclosures**

What is our governance on ESG?

Our governance framework on sustainability supports the creation of long-term value. Our firm's sustainability activities, including sustainable finance, are overseen at the highest level of our firm and are founded in our Code of Conduct and Ethics.

→ **Refer to the Sustainability Report 2019, available from 5 March 2020 under "Annual reporting" at *www.ubs.com/investors*, for the sustainability governance chart**

We regularly review whether our governance framework continues to reflect our ambitions with regard to sustainability. In 2019, we therefore decided to further sharpen our focus on sustainable finance and we are now establishing a Sustainable Finance Steering Committee. It will be comprised of senior business leaders engaged in our firm's sustainable finance efforts, who will work together to ensure that we continue to drive innovation and develop expertise and thought leadership regarding sustainable finance. The Chair of the Sustainable Finance Steering Committee is a member of the *UBS in society* Steering Committee.

1 UBS Investor Watch on the Year Ahead, November 2019.
2 UBS Asset Management and Responsible Investor magazine, ESG: Do You or Don't You?, June 2019.
3 Swiss Sustainable Investment Market Study 2019, June 2019.

How do we define sustainable finance?

Sustainable finance refers to any form of financial service that integrates ESG criteria into business or investment decisions. We provide sustainable finance solutions across all our business divisions and to all our client groups (as shown in the "Key achievements in 2019" chart on the next page), with a particular focus on sustainable investing.

Sustainable investing is an approach that seeks to incorporate ESG considerations into investment decisions. SI strategies seek to achieve a positive environmental or social impact and/or align investments with an investor's values regarding ESG topics, while aiming to improve portfolio risk and return characteristics. In the main, we identify three approaches of sustainable investing: exclusion (individual companies or entire industries are excluded from portfolios if their areas of activity conflict with an investor's values); ESG integration (which combines ESG factors with traditional financial considerations); and impact investing (which is designed specifically to help generate a positive social or environmental impact alongside financial returns).

We were among the early movers in developing terminology to describe our sustainable investing activities and to consistently report on them. We are, however, conscious of the need to simplify and standardize the terminology for sustainable finance, which will help to develop and expand that market. We are therefore actively involved in the relevant discussions and are committed to reflecting pertinent changes to terminology in our reporting.

Core sustainable investments[1]

		For the year ended			% change from
USD billion, except where indicated	GRI[2]	31.12.19	31.12.18	31.12.17	31.12.18
Core SI products and mandates					
Integration – sustainability focus[3]	FS11	46.4	20.0	12.8	132.4
Integration – ESG integration[4]	FS11	372.3	224.5	63.2	65.9
Impact investing[5]	FS11	9.1	4.7	2.8	92.1
Exclusions[6]	FS11	52.2	50.3	93.0	3.7
Third-party[7]	FS11	8.5	13.4	9.8	(37.0)
Total core sustainable investments	FS11	488.5	312.9	181.7	56.1
UBS total invested assets		3,607.0	3,101.0	3,262.0	16.3
Core SI proportion of total invested assets (%)	FS11	13.5	10.1	5.6	

1 All figures are based on information available in January 2020. 2 FS stands for the performance indicators defined in the Financial Services Sector Supplement of the Global Reporting Initiative reporting framework. 3 Strategies where sustainability is an explicit part of the investment guidelines, universe, selection, and/or investment process. 4 Strategies that integrate environmental, social, and governance (ESG) factors into fundamental financial analysis to improve risk / return. 5 Strategies where the intention is to generate measurable environmental and social impact alongside financial return. 6 Strategies that exclude companies from portfolios where they are not aligned to an investor's values. Includes customized screening services (single or multiple exclusion criteria). 7 SI products from third-party providers applying a strict and diligent asset selection process; the selection criteria have been reviewed for the end of 2019 reporting cycle, following a stricter approach from the provider of sustainability ratings. Excludes third-party products that went through a systematic GWM onboarding process, now counted under "Integration – sustainability focus."

What do we offer?

We support clients' sustainability efforts through thought leadership, innovation and partnerships, and we strive to incorporate ESG factors into the products and services we provide. We support corporate and institutional clients who want to generate positive environmental and societal impact using our corporate advisory expertise or by directing capital through our lending or investment capacity. We assist private and institutional clients with their desire to invest in accordance with their own social and environmental objectives, and we are proactive in discussing these issues with them.

Through our Philanthropy Services platform, we are partnering with clients to manage their philanthropy and maximize their impact, by offering expert advice, carefully selected programs from UBS Optimus Foundation, and innovative social financing mechanisms, such as development impact bonds.

In 2019, we noted strong momentum in our sustainable finance activities. A key indicator is the development of our core SI assets, where we managed to more than double penetration, from 5.6% of total invested assets in 2017 to 13.5% (USD 488 billion) in 2019 (2018: 10.1% or USD 313 billion). Core sustainable investments are SI products that involve a strict and diligent asset selection process through either exclusions (of companies / sectors from portfolios where the companies / sectors are not aligned to an investor's values) or positive selections (such as best-in-class, thematic or ESG integration and impact investing).

Norms-based screening assets, i.e., assets that fall under the application of a UBS policy[1] and do not otherwise qualify as a core sustainable investment, amounted to USD 818 billion as of 31 December 2019 (up from USD 797 billion in 2018). Total sustainable investments, including norms-based screening assets, accounted for USD 1,306 billion (2018: USD 1,110 billion), or 36.2% (2018: 35.8%), of our total invested assets.

1 The assets in discretionary mandates, in UBS's actively managed retail and institutional funds, as well as in our firm's proprietary trading book, are subject to our firm's policy on the prohibition of investment in and indirect financing of companies involved in the development, production or purchase of anti-personnel mines and cluster munitions.

Key achievements in 2019

Group

We are committed to maximizing positive effects and to minimizing negative impact that we have on society and the environment.

- UBS Optimus Foundation: an award-winning grant-making foundation that helps our clients use their wealth to drive positive and sustainable social change for children.
- Environmental and social risk management: we engage with clients and suppliers to better understand their processes and policies, and to explore how any environmental and social risks may be mitigated.

Global Wealth Management

We are a leader in sustainable investing (SI)[1] with a global footprint and a network of resources to deliver a wide range of research, advisory and product capabilities that continue to grow.

- USD 3.9 billion raised toward commitment to direct at least USD 5 billion of client assets in SDG-related impact investments by 2021
- Launch of the SDG Engagement High Yield Credit funds

9.4 USD billion

invested in 100% SI solutions and bespoke SI solutions.

3.3 million children

In 2019, UBS Optimus Foundation raised USD 89.5 million in donations, approved USD 109.5 million in grants and helped improve the well-being of 3.3 million children worldwide.

Personal & Corporate Banking

We have been building sustainable finance offerings for all client segments.

- Retail clients: access to 100% sustainable investment solutions.
- Corporate clients: USD 200 million raised in the first green bond for a Swiss-listed energy and infrastructure company.
- Institutional clients: advice on SI integrated into strategic dialog with clients.

2 core SI products

were launched for our retail clients.

Investment Bank

We are focused on meeting the needs of our clients with regard to ESG and sustainable finance, and helping reshape business models and investment opportunities.

- Dedicated thought-leading ESG research team in its 15th year.
- Introduced the UBS ESG icon in our research reports in 2019, flagging ESG content in 32 reports.
- UBS ESG and Sustainability Symposium in London with over 40 speakers; relevant ESG content incorporated at key client conferences.
- Sustainability-driven investment solutions: launch of ESG Global Equity Premia.

Asset Management

We have established an industry-leading SI platform offering a wide range of SI strategies across various asset classes, integrating sustainability and impact into all our mainstream offerings.

- Invested assets in the categories "impact investing" and "sustainability focus" increased 14-fold since beginning of 2016 to USD 38.6 billion.
- ESG integration across all traditional asset classes, at USD 323.1 billion.

3.1 USD billion

Climate Aware strategy, a pioneering approach to integrate the 2°C climate change scenario into an investment solution, at USD 3.1 billion invested assets.

25 green and sustainable bonds

Support for companies driving positive impact: 25 high-profile issuances of green and sustainable bonds.

[1] Euromoney Private Banking and Wealth Management Survey 2019: Global Results

Investors

We generate long-term value for our investors by executing our strategy with discipline, striving for cost- and capital-efficient growth, long-term sustainable value creation, and attractive shareholder returns.

Investor base

Our investor base is well diversified. A substantial proportion of our institutional shareholders are based in the US, the UK and Switzerland.

→ **Refer to the "Corporate governance" section of this report for more information about disclosed shareholdings**

Cost- and capital-efficient revenue growth

We aim to drive higher and superior returns by growing and leveraging our unique, integrated and complementary business portfolio and geographic footprint. Our Global Wealth Management business is well positioned to take advantage of two secular trends: wealth transfer and wealth creation, partly driven by continued economic growth, particularly in Asia, where China is opening its financial markets. Each of our businesses has initiatives to achieve revenue growth and improve operating efficiency.

→ **Refer to "Industry trends" in the "Our environment" section of this report for more information about wealth creation and wealth transfer**

We aim to balance growth opportunities with cost and capital efficiency in order to drive attractive risk-adjusted returns and sustainable performance.

Our primary measurement of performance for the Group is return on common equity tier 1 capital (CET1), as regulatory capital is our binding constraint and drives our ability to return capital to shareholders.

→ **Refer to the "Performance targets and measurement" section of this report for more information**

Shareholder returns

We aim to increase our ordinary dividend per share by USD 0.01 each year, and to return excess capital through share repurchases. We consider business conditions and any idiosyncratic developments when determining excess capital available for share repurchases.

Alignment of interests

We aim to align the interests of our employees with those of our equity and debt investors. This is reflected in our compensation philosophy and practices.

→ **Refer to "Our compensation philosophy" in the "Compensation" section of this report for more information**

Communications

Our Investor Relations function serves as the primary point of contact between UBS and all shareholders. Our senior management and the Investor Relations team regularly interact with the institutional investors community, financial analysts and other market participants, such as credit rating agencies. Clear, transparent and relevant disclosures, together with regular and direct interactions with existing and prospective shareholders, form the basis for our communications. The Investor Relations team also relays the views of and feedback from institutional investors and other market participants on UBS to our senior management.

Investor Relations and Corporate Responsibility work together and interact with those investors focusing on sustainability topics relevant to UBS and society at large.

→ **Refer to "Corporate governance" and "Information policy" in the "Corporate governance" section of this report for more information**

→ **Refer to "Society" in this section for more information about our sustainability efforts**

Employees

Our employees drive our success. Our employees work in 50 countries, are citizens of 136 nations and speak more than 150 languages. Their skills, experience and commitment enable us to deliver innovative solutions for our clients, foster sustainable business success, protect our reputation and drive the firm forward. As an employer, we attract, develop and retain a diverse range of talent and aim to ensure there is a workplace culture that supports and engages our employees, enabling them to build their careers and unlock their full potential.

The keys to a strong corporate culture

Our three keys to success remain the foundation of our strategy and culture. Together, they define what we stand for as a firm and as individuals, and they drive our business strategy. We set out on our cultural transformation in 2011, defining and then embedding our *Pillars, Principles and Behaviors* into our core people management processes. We conduct regular employee surveys to obtain feedback and ensure continuous improvement, discussing the findings and further actions with our employees. In 2019, responses indicated that employee engagement, appreciation for our talent management practices, and pride in working at UBS were all above the norm for financial services organizations.

→ **Refer to the foldout pages of this report for more information about our Pillars, Principles and Behaviors**

Engaging and enabling employees, instilling a strong risk culture and promoting sustainability were culture-building priorities in 2019. In this respect, our *Group Franchise Awards* program provided foundational support. This Group-wide initiative rewards employees for cross-divisional collaboration and operational effectiveness improvements.

We are convinced that leadership drives culture, and culture drives performance. Great leaders are the key to developing our people, client relationships and results. For many years, our *House View on Leadership* has outlined what effective leadership is at UBS, as well as what employees can expect. To help leaders better adapt to continuous change and digitalization, we updated our *House View* in 2019 and integrated its precepts into all of our core HR processes, including recruitment, performance evaluations, training, succession planning and promotions. Characteristics such as innovation, curiosity and agility complement our long-standing emphasis on inclusivity, sustainable profits, accountability, cross-firm partnership and putting clients first. It is an evolution of how we view leadership that creates an extraordinary experience for our clients and our people.

Hiring, developing and retaining talent

We are widely recognized as an employer of choice and a great place to build a career. Key to our success is our long-standing commitment to investing in our employees at every career stage. It starts with recruitment, where our philosophy is to hire for potential, considering the individual's experience and competencies, learning capabilities and agility, as well as digital and data savviness. We hired a total of 10,080 external candidates in 2019. Our junior talent programs hired more than 1,700 graduate and other trainees, interns and apprentices. We also continued our insourcing and hiring activities in our Business Solutions Centers in China, India, Poland, Switzerland and the US as part of our integrated workforce strategy.

Our in-house *UBS University* further updated its curriculum in 2019 to emphasize future-skills development and personal growth for all employees, with a new digital skills curriculum that builds knowledge about topics such as blockchain, cloud computing, robotics and artificial intelligence. We also launched a mobile learning app to enable employees to learn whenever and wherever they want. We revamped our leadership development offering in 2019 to ensure that our leaders have the skills they need to develop their businesses and their people, and to lead effectively in the digital transformation age. In 2019, our permanent employees completed more than 1,100,000 learning activities, including mandatory training on compliance, business and other topics. This averaged to more than two training days per employee.

Along with line manager effectiveness, having a wide range of learning and career development opportunities, as well as tools to facilitate professional growth, are key drivers of employee engagement. In this respect, our new *Career Navigator* tool, which was launched in June 2019, has been a game-changer. This online platform enables employees to explore career paths and search for open roles that match their interests while allowing our recruiters to find internal talent more easily. It also identifies skill gaps with regard to new roles and interests and directly links to learning opportunities to help fill these gaps.

We are committed to ensuring a workplace where employees are fairly treated, with equal opportunities for all. We do not tolerate harassment of any kind. Our global measures include employee and line manager training, specialist expertise in handling concerns raised, and a global employee hotline. A Harassment Guardian provides an independent view of the firm's setup, procedures and behaviors to prevent harassment and sexual misconduct.

We pay for performance, and a strong commitment to pay equity is embedded into our compensation policies. We conduct regular internal, as well as independent external, reviews, with the aim of ensuring that all employees are paid fairly, and we seek to address any unexplained gaps.

→ **Refer to *www.ubs.com/employerawards*, *www.ubs.com/careers* and the "Compensation" section of this report for more information**

Personnel by region

	As of			% change from
Full-time equivalents	31.12.19	31.12.18	31.12.17	31.12.18
Americas	21,036	21,309	20,770	(1)
of which: USA	*20,232*	*20,495*	*19,944*	*(1)*
Asia Pacific	13,956	12,119	8,959	15
Europe, Middle East and Africa (excluding Switzerland)	12,918	12,620	11,097	2
of which: UK	*5,704*	*5,782*	*5,274*	*(1)*
of which: rest of Europe (excluding Switzerland)	*7,048*	*6,670*	*5,662*	*6*
of which: Middle East and Africa	*166*	*168*	*161*	*(1)*
Switzerland	20,691	20,840	20,427	(1)
Total[1]	68,601	66,888	61,253	3

1 The increase in workforce in 2019 and 2018 was mainly due to insourcing initiatives and was more than offset by a decrease in external staff.

The importance of diversity and inclusion

A widely diverse workforce that reflects the experience of our global clients is important for our long-term success. We therefore strive to shape a diverse and inclusive culture across the firm to drive sustainable growth and innovation, deliver the best of UBS to our clients, and build a better place to work for all employees.

Our broad view of diversity encompasses a range of aspects, including gender, ethnicity, LGBTQ, disability, mental health and inclusive leadership. We remain committed to narrowing our gender representation gap, especially at the management level, through a global gender diversity strategy and a wide range of supporting initiatives to hire, promote and retain more women at all levels of the organization. We continue to make progress toward our stated aspiration of increasing the representation of women in management roles to one-third. In 2019, 25.2% of all employees in roles at Director level and above were women, up from 24.7% in 2018.

Our *UBS Career Comeback* program, which was launched in 2016, continues to help us increase our pipeline of female senior leaders. Professionals looking to return to corporate jobs after a career break are hired for permanent roles and supported with specialized onboarding, coaching and mentoring. In 2019, *Career Comeback* expanded beyond its four established hubs in the US, UK, Switzerland and India to become a global, year-round program. To date, *Career Comeback* has helped 142 women and 8 men relaunch their careers.

→ **Refer to *www.ubs.com/diversity* for additional information about our priorities and commitments, and the Sustainability Report 2019, available from 5 March 2020 under "Annual reporting" at *www.ubs.com/investors* for our management practices and detailed employee data, including gender- and region-specific data**

Society

As expressed in the 17 United Nations Sustainable Development Goals (the SDGs), the world faces enormous societal and environmental challenges. We recognize that it is important to understand these challenges, as well as the opportunities arising from them, to consider their relevance to UBS and to identify potential actions our firm may need to take.

As the world's largest truly global wealth manager, we have a responsibility to take a leading role in shaping a positive future, for everyone, including the generations to come.

Code of Conduct and Ethics

In our Code of Conduct and Ethics (the Code), the Board of Directors and the Group Executive Board set out the principles and practices that define our ethical standards and the way we do business. These principles apply to all aspects of our business.

All employees must confirm annually that they have read and will adhere to the Code and other key policies, supporting a culture where ethical and responsible behavior is part of our everyday operations.

In the Code, we make a commitment to integrating financial and societal performance for the mutual benefit of our clients and our firm – and that we are constantly looking for better ways to do business in an environmentally sound and socially responsible manner.

→ **Refer to the Code of Conduct and Ethics of UBS, available at *www.ubs.com/code*, for more information**

Engaging with society

We engage with representatives of wider society on a regular basis and on a wide range of topics. This engagement yields important information about society's expectations and concerns and makes a critical contribution to our understanding and management of issues with potential (positive and negative) relevance to our firm – and to society. By actively fostering such interactions, we are in a position to address expectations and concerns in an informed and effective manner.

UBS in society

UBS in society is a dedicated organization within the firm, focused on maximizing our positive effect and minimizing any negative effects UBS has on society and the environment. It covers all of the activities and capabilities related to sustainable finance (including sustainable investing), philanthropy, environmental, climate and human rights policies governing client and supplier relationships, our environmental footprint, human resources, and community investment. It is through this cross-divisional organization that we leverage our expertise across all of these areas to drive sustainable performance. *UBS in society* is committed to making UBS a force for driving positive change in society and the environment.

The activities driven by *UBS in society* are overseen, at the highest level of our firm, by our Board of Directors' Corporate Culture and Responsibility Committee (the CCRC). The Group CEO supervises the execution of the *UBS in society* strategy and annual objectives and informs the Group Executive Board and CCRC about *UBS in society* updates as appropriate. Reporting to the Group CEO, the Head *UBS in society* is UBS's senior-level representative for sustainability issues and, on behalf of the Group CEO, proposes the *UBS in society* strategy and annual objectives to the CCRC for approval.

→ **Refer to "Board of Directors" in the "Corporate governance" section of this report for more information about the CCRC**

Driving change in finance

As a major financial institution, we are conscious that the activities and decisions of our clients can have a substantial impact on society. It is for that reason that we strive to incorporate environmental, social and governance (ESG) impacts into the products and services we provide to clients and partner with them to help mobilize capital toward the achievement of the SDGs and the orderly transition to a low-carbon economy.

We know that ESG topics are increasingly important to our clients. That is why we have dedicated a separate section in this report to highlight our commitment to serving the growing sustainable finance needs and expectations of our clients, and to the key activities associated with our commitment.

→ **Refer to "Our focus on ESG" in this section for more information**

Driving change in philanthropy

We believe our clients can make a meaningful, and measurable, difference for their chosen causes with advice from our philanthropy experts and the more than 200 global programs that have been carefully selected through our UBS Optimus Foundation. We increase social impact by combining our expertise with capital and networks. Through our Philanthropy Services platform, we offer clients unique access to social and financial innovation and philanthropic advice, as well as tailored program design, co-funding and co-development opportunities.

→ **Refer to *www.ubs.com/optimus* for more information**

Driving change in communities

We recognize that our firm's long-term success depends on the health and prosperity of the communities of which we are a part. We seek to redress disadvantages through long-term investments in education and entrepreneurship. We provide strategic financial commitments and targeted employee volunteering to drive impact across a number of the SDGs.

→ **Refer to the "Driving change in communities" section in the Sustainability Report 2019, available from 5 March 2020 under "Annual reporting" at *www.ubs.com/investors* for more information**

Driving change in business

We view the proper, firm-wide management of our firm's own environmental footprint and our supply chain as important proof of how we do business in a sustainable manner for the benefit of society.

This is equally true of our comprehensive environmental and social risk management and framework that governs client and vendor relationships and is applied firm-wide to all activities. We have set environmental and social risk standards pertaining to environmental and human rights topics in product development, investments, financing and supply chain management. We have identified certain controversial activities that we will not engage in at all, or only under stringent criteria. As part of this process, we engage with clients and vendors to better understand their processes and policies, and to explore how any environmental and social risks may be mitigated.

We have set ambitious targets relating to our use of energy, water and paper, as well as to our travel and the amount of waste we produce, and we aim to increase the awareness of environmental and social matters among our employees and foster a long-term sustainable mindset in all our activities. In 2019, the year in which we celebrated 20 years since becoming the first bank to gain global environmental management system certification (ISO 14001), we ran major campaigns on key environmental themes.

Our campaigns demonstrate our strong commitment to reducing UBS's environmental footprint and further raising our employees' awareness of key environmental challenges. The "Go drastic. Cut the plastic." global campaign, which was launched in July 2019, aims at encouraging behavioral change to help tackle, reduce and phase out single-use plastic items across our firm. In October, we held our first Zero Waste Day at 22 sites across the globe, which featured numerous sustainability-themed activities. Additionally, at five major offices across the globe, we hosted events featuring subject matter experts talking about their life's work and passion, including speakers from innovative companies.

→ **Refer to the Sustainability Report 2019, available from 5 March 2020 under "Annual reporting" at *www.ubs.com/investors*, for full descriptions of our environmental management, our responsible supply chain management and our environmental and social risk management and framework**

Reducing our environmental footprint

Reporting to our stakeholders on our sustainability strategy and activities

Information about all our sustainability efforts and commitments is provided in the UBS Sustainability Report,[1] available under "Annual reporting" at *www.ubs.com/investors.* The content of the Sustainability Report has been prepared in accordance with the Global Reporting Initiative (GRI) Standards ("comprehensive" option) and with the German rules implementing the EU directive on disclosure of non-financial and diversity information (2014/95/EU). Our reporting on sustainability has been reviewed on a limited assurance basis by Ernst & Young Ltd against the GRI Standards. Our Sustainability Report 2019 also includes our full climate disclosure, which we have been aligning with the recommendations provided by the Financial Stability Board's Task Force on Climate-related Financial Disclosures since their introduction in 2017.

1 The UBS Sustainability Report is available from 5 March 2020, and is not deemed incorporated by reference into the SEC Form 20-F filing.

Aims and progress

We work with a long-term focus on providing appropriate returns to all of our stakeholders in a responsible manner. To underline our commitment, we provide transparent goals and report on progress made against them wherever possible. In 2019, we made good progress in delivering against the Group's aims.

We aim to be / Our key goals[1]	Our progress
A leader in sustainable finance across all client segments	
2017–2020 – Double the penetration of core SI assets from 5.6% (USD 182 billion) of total invested assets[2]	– Achieved our goal one year early, reaching USD 488.5 billion in core SI assets representing 13.5% of total invested assets[2,3]
2016–2021 – Direct at least USD 5 billion of client assets into SDG-related impact investments	– USD 3.9 billion of client assets directed into SDG-related impact investments[4]
A recognized innovator and thought leader in philanthropy	
2017–2020 – Achieve 40% of employees volunteering with 40% of volunteer hours being skills based – Increase donations to UBS Optimus Foundation to CHF 100 million in 2020	– 38% of global workforce volunteered and 48% of volunteer hours were skills based[5] – UBS Optimus Foundation: USD 89.5 million (CHF 86.9 million) in donations raised; USD 109.5 million (CHF 106.3 million) in grants approved
2020–2025 – Support 1 million young people and adults ("beneficiaries") to learn and develop skills for employment, decent jobs and entrepreneurship through our community investment activities – Improve the lives of 5 million children globally by engaging at least 1,000 clients in UBS Optimus Foundation's collective giving platforms	– Progress against these goals will be reported for the financial year 2020 onward
An industry leader in sustainable business practices	
– Retain favorable positions in key ESG ratings	– Maintained leadership position (Dow Jones Sustainability Indices / DJSI) – AA rating maintained (MSCI ESG Research) – Industry leader rank maintained (Sustainalytics) – A– rating and included in Leadership band (CDP)
2017–2022 – Implement the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)	– First TCFD reporting introduced for the financial year 2017, continuous improvements ever since
2019–2024 – Implement the requirements of the Principles for Responsible Banking (PRB)	– Among the founding signatories of the PRB (September 2019)
An employer of choice	
– Being recognized as one of the world's most attractive employers in key ratings and rankings	– Included in Global Universum ranking of Top 50 World's Most Attractive Employers – Peer-leading position in human resources elements of DJSI – Score above financial services norm in employee engagement and work environment (based on employee survey results) – Recognized by Bloomberg Gender-Equality Index

1 Refer to the UBS in society constitutional document (in the Sustainability Report 2019) for more information about all aims. Goals are to be achieved by the end of the target year. 2 Core SI are SI products that involve a strict and diligent asset selection process through either exclusions (of companies / sectors from the portfolio where the companies are not aligned to an investor's values) or positive selections (such as best-in-class, thematic or ESG integration and impact investing). Refer to the "Core sustainable investments" table in "Our focus on ESG" in this section. 3 The increase in core SI assets was mainly driven by the ESG integration strategy of Asset Management. Refer to the "Core sustainable investments" table in "Our focus on ESG" in this section. 4 Strategies where the investment has the intention of generating measurable environmental and social impact alongside a financial return. 5 Refer to the "Driving change in communities" section in the Sustainability Report 2019.

Regulation and supervision

As a financial services provider based in Switzerland, UBS is subject to the consolidated supervision of the Swiss Financial Market Supervisory Authority (FINMA). Our entities are also regulated and supervised by the authorities in each of the countries where they conduct business. Through UBS AG and UBS Switzerland AG, which are licensed as banks in Switzerland, the Group may engage in a full range of financial services activities in Switzerland and abroad, including personal banking, commercial banking, investment banking and asset management.

As a global systemically important bank (G-SIB), as designated by the Financial Stability Board, and a systemically relevant bank (SRB) in Switzerland, we are subject to stricter regulatory requirements and supervision than most other Swiss banks. The significant changes to financial regulation after the financial crisis in 2008 have had a material effect on how we conduct our business and have required significant investment.

→ **Refer to the "Our evolution" section of this report for more information**

→ **Refer to the "Regulatory and legal developments" and "Risk factors" sections of this report for more information**

Regulation and supervision in Switzerland

Supervision

UBS Group AG and its subsidiaries are subject to consolidated supervision by FINMA under the Swiss Federal Law on Banks and Savings Banks (the Swiss Banking Act) and related ordinances, which impose, among other requirements, minimum standards for capital, liquidity, risk concentration and internal organization. FINMA fulfills its statutory supervisory responsibilities through licensing, regulation, supervision and enforcement. It is responsible for prudential supervision and mandates audit firms to perform regulatory audits and other supervisory tasks on its behalf.

Capital adequacy and liquidity regulation

As an internationally active Swiss SRB, we are subject to capital and total loss-absorbing capacity requirements that are based on both risk-weighted assets and leverage ratio denominator and are among the most stringent in the world. Furthermore, we are subject to short-term liquidity coverage ratio rules, and after the net stable funding ratio will have been brought into force in Switzerland, which the Swiss Federal Council currently intends will be by mid-2021, we will be subject to long-term minimum funding requirements.

→ **Refer to the "Capital management" section of this report for more information about the Swiss SRB framework and the Swiss too-big-to-fail requirements**

→ **Refer to "Assets and liquidity management" in the "Treasury management" section of this report for more information about liquidity coverage ratio requirements**

→ **Refer to the "Regulatory and legal developments" section of this report for more information about the introduction of the net stable funding ratio**

Regulation and supervision outside Switzerland

Regulation and supervision in the US

In the US, UBS is subject to regulation and supervision by the Board of Governors of the Federal Reserve System (the Federal Reserve Board) under a number of laws. UBS Group AG and UBS AG are both subject to the Bank Holding Company Act, under which the Federal Reserve Board has supervisory authority over the US operations of both UBS Group AG and UBS AG. UBS's US operations are also subject to oversight by the Federal Reserve Board's Large Institution Supervision Coordinating Committee.

In addition to being a financial holding company under the Bank Holding Company Act, UBS AG maintains several branches and representative offices in the US, which are authorized and supervised by the Office of the Comptroller of the Currency. UBS AG is registered as a swap dealer with the Commodity Futures Trading Commission (the CFTC) and we expect that UBS AG will be required to register as a security-based swap dealer with the Securities and Exchange Commission (the SEC) by the registration date of 6 October 2021.

UBS Americas Holding LLC – the intermediate holding company for our non-UBS AG branch operations in the US, as required under the Dodd–Frank Act – is subject to requirements established by the Federal Reserve Board related to risk-based capital, liquidity, the Comprehensive Capital Analysis and Review stress testing and capital planning process, and resolution planning and governance.

UBS Bank USA, a Federal Deposit Insurance Corporation-insured depository institution subsidiary, is licensed and regulated by state regulators in Utah.

UBS Financial Services Inc., UBS Securities LLC and several other US subsidiaries are subject to regulation by a number of different government agencies and self-regulatory organizations, including the SEC, the Financial Industry Regulatory Authority, the CFTC, the Municipal Securities Rulemaking Board and national securities exchanges, depending on the nature of their business.

Regulation and supervision in the UK

Our regulated operations in the UK are mainly subject to the authority of the Prudential Regulation Authority (the PRA), which is part of the Bank of England, and the Financial Conduct Authority (the FCA). We are also subject to the rules of the London Stock Exchange and other securities and commodities exchanges of which UBS AG is a member.

UBS AG and UBS Europe SE have UK-registered branches in London. UBS AG, London Branch serves as a global booking center for our Investment Bank. In addition, our regulated subsidiaries in the UK that provide asset management services are authorized and regulated mainly by the FCA, with one entity being also subject to the authority of the PRA.

Regulation and supervision in Germany

Certain parts of the businesses of UBS Limited have been transferred via cross-border merger to UBS Europe SE, a Frankfurt-based subsidiary of UBS AG. The remainder of the businesses not merged into UBS Europe SE were transferred to UBS AG, London Branch. As a result of the cross-border merger, UBS Europe SE has become a significant entity and is subject to the direct supervision of the European Central Bank, in addition to the continued conduct, consumer protection and anti-money laundering-related supervision by the German BaFin and the supervisory support by the German Bundesbank. The entity is subject to EU and German laws and regulations. UBS Europe SE maintains branches in Austria, Denmark, France, Italy, Luxembourg, the Netherlands, Poland, Spain, Sweden, Switzerland and the UK, and is subject to conduct supervision by authorities in all those countries.

Regulation and supervision in Singapore and Hong Kong

In Asia Pacific (APAC), we operate from 13 locations and are therefore subject to the regulation and supervision by local financial regulators. The APAC regional hubs are Singapore and Hong Kong.

UBS AG, Singapore Branch and UBS Securities Pte. Ltd. are primarily supervised by the Monetary Authority of Singapore and the Singapore Exchange.

UBS AG, Hong Kong Branch is primarily supervised by the Hong Kong Monetary Authority. UBS Securities Hong Kong Limited, UBS Securities Asia Limited and UBS Asset Management (Hong Kong) Limited are primarily supervised by the Hong Kong Securities and Futures Commission. In addition, UBS Securities Hong Kong Limited is supervised by the Hong Kong Stock Exchange and the Hong Kong Futures Exchange.

Financial crime prevention

Combating money laundering and terrorist financing has been a major focus of government policies relating to financial institutions in recent years. The US Bank Secrecy Act and other laws and regulations require the maintenance of effective policies, procedures and controls to detect, prevent and report money laundering and terrorist financing, and to verify the identity of our clients. Failure to maintain and implement adequate programs to prevent money laundering and terrorist financing could result in significant legal and reputation risk.

In addition, we are subject to laws and regulations, in jurisdictions in which we operate, prohibiting corrupt or illegal payments to government officials and others, including the US Foreign Corrupt Practices Act and the UK Bribery Act. We maintain policies, procedures and internal controls intended to comply with those regulations.

Data protection

We are subject to regulations concerning the use and protection of customer, employee, and other personal and confidential information. This includes provisions under Swiss law, the EU General Data Protection Regulation (the GDPR) and laws of other jurisdictions.

If implemented as proposed, we will become subject to a revised Swiss data protection law, which seeks to improve data protection for individuals by enhancing the transparency and accountability rules for companies processing data, among other measures. This is intended to ensure the equivalence necessary for the continued cross-border transmission of data. We expect the Swiss parliament to pass the revised law in 2020 and expect it to take effect on 1 January 2021.

→ **Refer to the "Risk factors" section of this report for more information about regulatory change**

Recovery and resolution

Too-big-to-fail legislation in Switzerland requires each Swiss systemically relevant bank (SRB) to establish an emergency plan to avoid impending insolvency while maintaining systemic functions. In response to these requirements in Switzerland, and to similar requirements in other jurisdictions, UBS has developed recovery plans and resolution strategies, as well as plans for restructuring or winding down businesses if the firm could not be stabilized by other measures.

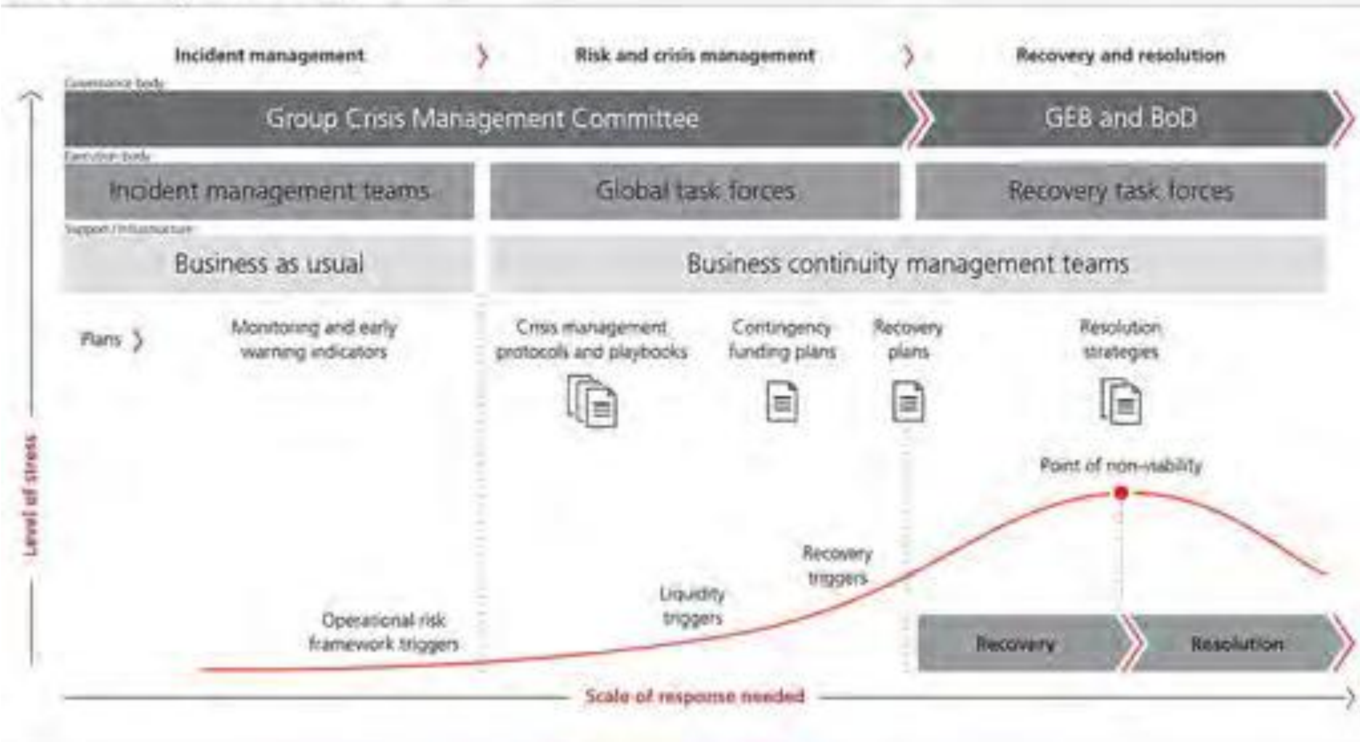
In 2013, FINMA stated its preference for a single point of entry (SPE) strategy for globally active SRBs, such as UBS, with a bail-in at the group holding company level. UBS has since made structural, financial and operational changes to facilitate an SPE strategy and is confident that a resolution of the bank is operationally executable and legally enforceable. In February 2020, FINMA published its assessment of the recovery and resolution plans and emergency plans for Swiss SRBs. FINMA confirmed that our Swiss emergency plan is effective, subject to a further reduction of its joint and several liabilities. In addition, FINMA confirmed that UBS has completed important measures and made considerable progress with respect to its global resolvability.

UBS's crisis management framework

There are three key governance bodies within the UBS Group crisis management framework (see the chart below), which take responsibility and action depending on the nature of the stress incident and the scale of the response needed.

- For incident, risk and crisis management, the Group Crisis Management Committee works with incident management teams who provide monitoring and early warning indicators to management at a local or regional level, without the need to activate protocols at the Group level. In the event that any local response is insufficient, global task forces and crisis management teams provide decision-making guidance and coordination, including crisis management plans, protocols and playbooks, as well as contingency funding plans.
- The Group Executive Board (the GEB) and the Board of Directors (the BoD) of the Group would evaluate and decide upon the need to activate the Global Recovery Plan (the GRP) were a stress event to reach a severity that required such decision making, according to the risk indicators identified in the GRP.
- FINMA has the authority to determine whether the point of impending insolvency as defined by Swiss law has been reached and, in such instances, as part of the resolution strategy, has the power to order the bail-in of creditors to recapitalize and stabilize the Group, limit payments of dividends and interest, alter our legal structure, take actions to reduce business risk, as well as to order a restructuring of the bank.

UBS crisis management framework



Global Recovery Plan

The Global Recovery Plan (the GRP) provides UBS's senior management with a tool to respond to early warning indicators and identifies measures to restore financial strength should UBS come under severe capital and/or liquidity stress.

Defined quantitative and qualitative triggers are monitored daily and are subject to predefined governance and escalation processes. Fully actionable recovery options are available and provide a firm basis for the GEB Recovery Task Force for decision making in recovery. Recovery options have defined execution owners and playbooks with the following objectives:

- capital preservation, such as reduction of future dividends, incentive compensation reductions;
- capital raising, such as issuance of mandatory convertible instruments; and
- raising funding, disposal or wind-down of businesses.

Global Resolution Strategy

The Global Resolution Strategy (the GRS) sets out measures that can be taken by FINMA to resolve UBS in an orderly manner, in the event that the recovery process is not successful and the Group enters into resolution. UBS submits the GRS to FINMA, which has the ultimate authority and responsibility to execute the resolution, in cooperation with the Swiss National Bank, the Federal Department of Finance and other key authorities through a Crisis Management Group. The SPE bail-in strategy would involve the write-down of remaining equity, additional tier 1 and tier 2 instruments of the Group, as well as the bail-in of total loss-absorbing (TLAC)-eligible senior unsecured bonds at the UBS Group AG level. At the same time, an internal recapitalization of the affected subsidiaries would be executed, allowing the subsidiaries to transmit incurred losses to the parent bank, UBS AG, and ultimately to UBS Group AG. Post-resolution restructuring measures could include the potential wind-down of businesses and assets, as well as business disposals. Preparatory work is ongoing. Overall, FINMA confirmed that UBS has already taken important preparatory steps and has thus made considerable progress with respect to its global resolvability.

Total loss-absorbing capacity of UBS Group, USD 89.6 billion

As of 31.12.2019, USD billion

Local plans

The UBS US resolution plan sets out the steps which could be taken to resolve the UBS Americas Holding LLC group in the event that the US sub-group suffered material financial distress and the Group was either unable or unwilling to provide financial support. As required by the US resolution planning regulations, our US plan contemplates that UBS Americas Holding LLC will commence a bankruptcy proceeding in the US. Prior to commencement of the proceeding, the plan contemplates that UBS Americas Holding LLC would downstream financial resources to its subsidiaries to facilitate the orderly wind-down or disposal of businesses.

Subsequent to the cross-border merger of UBS Limited into UBS Europe SE, the enlarged European operating subsidiary is in the process of developing resolution planning according to Single Resolution Board requirements. In view of the relatively small size of UBS Europe SE compared with the overall Group, emphasis is placed on the GRP and GRS to provide the tools necessary to recapitalize and restructure the company in the event of material financial distress.

The Swiss emergency plan demonstrates how UBS's systemically important functions and critical operations can continue in the event that a successful restructuring of the Group is deemed not to be successful. This is achieved mainly by maintaining UBS Switzerland AG as a separate legal entity. FINMA has confirmed that the Swiss emergency plan is effective, subject to a further reduction of its joint and several liabilities.

Other local recovery and resolution plans exist for various Group entities and jurisdictions. They illustrate how local operations benefit from the GRP and the GRS, and also support the global plans. UBS's operational continuity planning is intended to ensure the uninterrupted provision of critical services even if certain Group entities are discontinued in a crisis.

Regulatory and legal developments

Switzerland

Swiss Federal Council adopts new rules on gone concern capital for G-SIBs

In November 2019, the Swiss Federal Council adopted amendments to the Capital Adequacy Ordinance, which became effective 1 January 2020. The revisions introduce gone concern capital requirements for Switzerland-based intermediate parent banks of global systemically important banks (G-SIBs) on a standalone basis. As a consequence, UBS AG will be subject to: (i) a gone concern capital requirement on its third-party exposure on a standalone basis; (ii) an additional gone concern capital buffer requirement equal to 30% of the Group's gone concern capital requirement on UBS AG's consolidated exposure; and (iii) a gone concern capital requirement equal to the nominal value of the gone concern instruments issued by UBS entities and held by the parent bank. A transitional period until 2024 will be granted for the buffer requirement.

Based on current estimates, and once the new requirements have been fully phased in, we expect the UBS Group to be required to maintain a gone concern leverage ratio of around 75–100 basis points higher than what would be required to meet the Group requirements alone. The actual total loss-absorbing capital Group requirement at the end of the transition phase will depend on a number of components, including the subsidiaries' loss-absorbing capacity at the time.

The revisions also reduced the gone concern requirement of UBS Switzerland AG to 62% of the Group's gone concern requirement (before rebate) and increased the minimum gone concern requirement for the Group (after rebate) from 3% to 3.75% (based on leverage ratio denominator), effective 1 January 2022.

Finally, instruments available to meet gone concern requirements remain eligible until one year before maturity; however, the current haircut of 50% in the last year of eligibility is no longer applied under the revised rules.

→ **Refer to the "Capital management" section of this report for more information about the currently applicable requirements**

Swiss corporate tax reform

In May 2019, the Swiss electorate approved corporate tax reform measures that abolish preferential corporate tax regimes and introduce a series of tax measures aligned with Organisation for Economic Co-operation and Development (OECD) standards, while seeking to maintain Switzerland's competitiveness as a business location. The federal changes resulting from this tax reform do not have a significant effect on the tax expenses for the Group, as increases resulting from the reform are largely offset by tax rate reductions and other changes at the cantonal level. The federal reform became effective on 1 January 2020.

The reform measures also provide that for Switzerland-domiciled companies with shares listed on a stock exchange no more than 50% of dividends may be, and at least 50% of share repurchases for redemption must be, paid out of capital contribution reserves, with the remainder required to be paid from retained earnings. As a result, at least 50% of all dividends paid after 1 January 2020, including dividends in respect of the financial year 2019, will be paid from retained earnings, and will be subject to a 35% Swiss withholding tax. As of 31 December 2019, UBS held CHF 13 billion in approved capital contribution reserves for potential future distributions to shareholders, either in the form of dividends or share repurchases.

Separately, following a change in Swiss tax law as of 1 January 2019 that applies to holding companies of systemically relevant banks issuing loss-absorbing additional tier 1 or total loss-absorbing capacity (TLAC)-eligible senior unsecured debt instruments, UBS will no longer issue such instruments out of UBS Group Funding (Switzerland) AG and existing instruments were migrated to UBS Group AG in October 2019.

EU equivalence for Swiss trading venues

In June 2019, the European Commission decided not to extend its equivalence decision for Swiss trading venues beyond the end of June 2019, citing a perceived lack of progress toward the conclusion of an institutional framework agreement between Switzerland and the EU as the reason for this decision.

In reaction, the Swiss Federal Council activated a contingency measure to protect the Swiss stock exchange infrastructure, effective as of 1 July 2019. The Swiss measure introduced a recognition requirement for foreign trading venues that admit shares issued by Swiss incorporated companies to trading, with EU trading venues having their recognition revoked due to the lack of reciprocity. To comply with this measure, trading in Swiss shares on EU trading venues ceased and was redirected to Swiss trading venues as of 1 July 2019, as permitted under EU law in the absence of eligible EU trading venues.

We prepared for this scenario and, as of 1 July 2019, routed relevant trade flows in Swiss shares from EU to Swiss trading venues, with limited adjustment costs for UBS.

Swiss National Bank adjustment to the zero interest rate exemption threshold

In September 2019, the Swiss National Bank (the SNB) announced adjustments to the calculation of the amount of sight deposits at the SNB that are exempt from negative interest rates. The exemption threshold has been increased from 20 to 25 times each bank's minimum requirement. In addition, the threshold will be updated on a monthly basis. These changes came into effect on 1 November 2019. The SNB communicated that this decision was taken based on the assumption that the low interest rate environment around the world will persist for some time. In its December 2019 monetary policy assessment, the SNB left its previously announced policy measures unchanged. UBS maintains significant sight deposits at the SNB. The adjustments to the exemption threshold calculation benefit our net interest income.

Swiss Federal Council communicated its intention to bring the NSFR into force by mid-2021

Having delayed the introduction of net stable funding ratio (NSFR) requirements in Switzerland over the previous two years to align with developments in the EU and the US, the Swiss Federal Council communicated its intention in November 2019 to adopt the associated ordinance amendments in early summer 2020, and bring them into force by mid-2021. The Federal Department of Finance was mandated to finalize the regulatory texts jointly with relevant stakeholders, including affected banks, in the coming months. If implemented as originally proposed in the 2017 consultation, the introduction of the NSFR could result in a significant increase in long-term funding requirements on a legal entity level.

Automatic exchange of information

In September 2019, as a consequence of the automatic exchange of information (AEI) introduced in Switzerland as of 1 January 2017, the Swiss Federal Tax Administration exchanged information on financial accounts with 75 countries. With 63 of these countries, the exchange was reciprocal. In the case of 12 countries, Switzerland received information, but did not provide any, either because those countries do not yet meet the international requirements on confidentiality and data security (Belize, Bulgaria, Costa Rica, Curaçao, Cyprus, Montserrat, Romania and Saint Vincent and the Grenadines) or because they chose not to receive data (Bermuda, the British Virgin Islands, the Cayman Islands, and the Turks and Caicos Islands). The Federal Tax Administration sent information on around 3.1 million financial accounts to the partner states and received information on around 2.4 million from them. Subject to the exchange are identification, account and financial information, including name, address, state of residence and tax identification number, as well as information concerning the reporting financial institution, account balance, income payments and gross proceeds. UBS is committed to full compliance with its AEI obligations.

Tightened self-regulation for income-producing real estate

In August 2019, FINMA approved the Swiss Bankers Association's revised self-regulation on mortgage lending for income-producing real estate. The revisions increase the minimum equity required for new and increased mortgages on these properties, from 10% to 25% of the market value at origination, and require mortgages to amortize to two-thirds of the market value at origination within 10 years (previously 15 years). UBS Switzerland AG is subject to the revised self-regulation that came into effect on 1 January 2020. We expect the overall effect on UBS to be limited.

Europe

Update on the UK's withdrawal from the EU

Based on recent developments, the UK and EU are expected to negotiate the terms of their future relationship during a transition period intended to end 31 December 2020, including the granting of equivalence determinations for the UK under existing EU financial services legislation.

UBS implemented contingency plans through the combined UK business transfer and cross-border merger of UBS Limited into UBS Europe SE (UBS ESE) in March 2019.

The European Commission has confirmed an extension of the temporary equivalence for UK central counterparties (CCPs) until 31 January 2021. Should the UK exit the transition period without the necessary equivalence determination in place, UBS ESE's exposures to UK CCPs would need to be migrated to an EU CCP ahead of the 31 January 2021 deadline. In the absence of an agreement on the future EU–UK relationship or equivalence determinations covering relevant financial services, however, the industry would face a number of market structure issues that await resolution between the UK and EU in 2020, such as the operation of the derivatives and share trading obligations under the EU's Markets in Financial Instruments Directive II (MiFID II).

UK operational resilience requirements

In December 2019, the UK regulators (the Bank of England, the Prudential Regulation Authority (the PRA) and the Financial Conduct Authority) issued a consultation on their operational resilience expectations for banks and financial market infrastructures (FMIs). To complement this, the PRA is also consulting on outsourcing and third-party risk management requirements.

The proposals will require firms and FMIs to identify their key business services and set impact tolerances (i.e., the maximum level of disruption that would be tolerated) for each one. Firms will also be required to test their ability to deliver important business services within impact tolerances in severe but plausible scenarios.

UBS is in the process of adapting its existing operational resilience framework to the new methodology set out in the consultations. Impact tolerances will be clearly defined and scenarios will be designed and implemented to test our controls and maintain operations within those impact tolerances.

International

Developments on anti-money laundering

There has been increasing focus on anti-money laundering (AML), including on international collaboration, supervisory information sharing, and on divergences in the criteria and methodologies of the Financial Action Task Force (FATF). Authorities also recognized the increased role played by technology in facilitating AML compliance, but also in opening new doors for malicious activities. In this context, the FATF consulted on "Draft Guidance on Digital Identity", which aims to clarify how digital identity systems can be used for customer due diligence. The FATF also updated its standards that require crypto-exchanges to identify their customers and make that information available to law enforcement authorities. Separately, the Basel Committee on Banking Supervision (BCBS) consulted on the introduction of guidelines on interaction and cooperation between prudential and AML and counter-terrorist financing supervision. In the EU, there has been focus on strengthening the implementation of the EU AML rules, including via a strengthened role of the European Banking Authority (EBA) in rulemaking and supervision, and discussions are ongoing on a possible creation of an EU AML Agency.

In Switzerland, the Federal Council adopted a dispatch on amending the Anti-Money Laundering Act (the AMLA) on 26 June 2019. According to the proposal, advisors, such as lawyers and other professionals, will be subject to the AMLA. Additionally, using a risk-based approach, financial intermediaries will be required to verify certain information regarding beneficial ownership and will also be required to periodically review client profiles to assess whether they are up-to-date. In the US, various amendments and guidance regarding US AML laws were introduced, including on issues such as beneficial ownership, information sharing, privacy protections, risk management, and examination priorities. In APAC, the FATF and the Asia/Pacific Group on Money Laundering (the APG) carried out an evaluation of Japan and adopted six mutual evaluation reports which will drive AML policy development in the region for the years to come.

Developments on data protection

There has been an increased focus on data protection regulation and in particular on how technology is changing the context and international coordination of data policies, in the absence of a single global data protection regulatory body. This included considerations for clarity regarding the ability of banks to use big data analytics, addressing privacy and security concerns aimed at giving individuals more control over how their data is collected and used, and smooth transfers of data across borders. In the EU, the focus was on ongoing implementation of the General Data Protection Regulation (the GDPR) and addressing the inconsistencies between the GDPR and other EU legislation. Additionally, the EBA outlined key challenges in the roll out of big data and advanced analytics. EU–UK data transfers require use of EU-approved standard contractual clauses in the absence of UK and EU adequacy decisions. UBS completed a review in 2019 intended to ensure that EU-approved standard contractual clauses are included in all relevant contracts. In Switzerland, parliamentary debate on the fundamental revision and modernization of the Federal Data Protection Act took place throughout 2019 and will continue in 2020. Linked to the revision is the Swiss Federal Council's adoption of a dispatch to approve the Council of Europe data protection convention. The European Commission is expected to publish an adequacy decision on the level of Swiss data protection compared to the EU GDPR in the first quarter of 2020. In the US, California has become the first state to adopt its own comprehensive regulatory framework, the California Consumer Privacy Act.

Regulatory approaches to stablecoins

Stablecoins in general and the Libra project specifically continue to receive significant regulatory attention.

At the international level, a G7 report identified stablecoins as one of nine significant risks, giving rise to money laundering and tax compliance risks. The Financial Stability Board (the FSB) announced a review of the existing supervisory and regulatory approaches in addressing financial stability and systemic risks of stablecoins, and is expected to issue a consultation in April 2020. The International Organization of Securities Commissions examined how securities legislation may apply to global stablecoins and recommended a case-by-case approach.

In the EU, the European Commission and the Council of the EU stated that no global stablecoin initiative should operate in the EU until the legal, regulatory and oversight challenges and risks have been adequately identified and addressed.

In the US, Congress introduced a bill to classify stablecoins as securities and to regulate stablecoins under the Securities Act of 1933.

In Switzerland, FINMA outlined its treatment of stablecoins under Swiss supervisory law, stating that it would consider "substance over form" and apply a principle-based and technology-neutral approach. In addition, FINMA responded to a request from the Libra Association, providing an initial indication of the application of Swiss regulation, and highlighting the need for international regulatory coordination.

In the UK, the Bank of England recommended the UK Treasury consider adjusting the UK regulatory framework for payments to take into account innovations, such as stablecoins, by applying a risk-based approach and standards equivalent to those applied to traditional payment chains.

FSB efforts on new and emerging vulnerabilities in the financial system and resolvability of systemically important financial institutions (banks and CCPs)

As part of its priorities for 2020, the FSB communicated that it will reinforce its forward-looking monitoring of developments to identify, assess and address new and emerging vulnerabilities in the financial system. Focus topics include developments and financial stability considerations around fintech, regulatory issues from global stablecoins, cross-border payment systems, interest rate benchmark reforms, implications of the extended low interest environment, leveraged loans and collateralized loan obligations, as well as financial stability implications of climate change. The FSB also pointed to remaining gaps in making resolution strategies and plans operational with respect to banks and central counterparties (CCPs). Regarding banks, the FSB plans to address challenges related to finding the appropriate balance between group-internal distribution of total loss-absorbing capacity (TLAC) and non-pre-positioned resources and ensuring access to temporary liquidity as needed by firms going through resolution. Concerning CCPs, the FSB seeks to further strengthen their resilience and resolvability by continuing its work on financial resources and tools to support orderly resolution, with a related consultation expected for the second quarter of 2020.

Basel III implementation across jurisdictions

In Switzerland, the technical work on implementation of the Basel III rules finalized in 2017 started in the second half of 2019, led by the Swiss Federal Department of Finance and FINMA. However, none of the proposals have been made public so far.

The European Commission (the EC) consulted on the EU's approach to the implementation of the remaining elements of Basel III (including the market risk framework, the standardized approach to credit risk, operational risk and the output floor). The EC is expected to publish legislative proposals by June 2020. UBS's EU entities, principally UBS Europe SE, will be in scope of the EU requirements. US regulators have not yet proposed rules regarding the implementation of the remaining elements of Basel III.

Regulators in jurisdictions relevant to UBS are committed to meeting the BCBS implementation timeline for final Basel III rules as of 1 January 2022. However, we expect the effective dates to be later due to transition periods.

Regulatory developments related to sustainable finance

In the EU, political agreement has been reached on key elements of the EC's Sustainable Finance Action Plan issued in March 2018, including: (i) a sustainable finance taxonomy determining whether an economic activity contributes to certain environmental objectives and does no harm to others; (ii) disclosure requirements for banks that offer portfolio management services to provide transparency on the promotion of environmental or social characteristics and of sustainable investments in periodic reports; and (iii) two types of benchmarks aiming to reduce the carbon footprint of a standard investment portfolio or specifically contribute to attaining the two degrees Celsius reduction target set out in the Paris Agreement of 2015.

The EC also published draft rules that amend delegated acts under MiFID II and the Insurance Distribution Directive aiming at obliging investment firms and insurance distributors to include environmental, social and governance (ESG) factors and preferences in the advice that investment firms offer to their clients.

In Switzerland, the Federal Council created a working group headed by the State Secretariat for International Finance (the SIF) tasked with reviewing regulatory developments in the area of sustainable finance, such as the impact of the EC action plan on Switzerland. A report is expected for spring 2020 containing the results of this review and proposals for Switzerland's regulatory approach to sustainable finance. The effect on UBS will depend on the recommendations made in this report.

Separately, 2019 saw a number of developments related to management of financial risks. In April 2019, the UK Prudential Regulation Authority (the PRA) published a supervisory statement on enhancing banks' and insurers' approaches to managing the financial risk from climate change.

The Bank of England (the BoE) has published a discussion paper setting out its proposed framework for the 2021 biennial exploratory scenario (BES) exercise. The objective of the BES is to test the resilience of the largest banks and insurers to the physical and transition risks associated with different possible climate scenarios, and the financial system's exposure more broadly to climate-related risk. The BES is the part of the BoE's stress testing framework used to explore less well-understood risks that are not neatly linked to the financial cycle.

In Switzerland, parliament adopted a new draft for the revision of the CO_2 Act to implement the reduction goals of the Paris Agreement until 2030. The draft contains a new provision mandating the SNB and FINMA to assess climate-related financial risks in the financial sector.

In Hong Kong, the Hong Kong Monetary Authority has developed the Common Assessment Framework on Green and Sustainable Banking for authorized institutions to conduct self-assessments of their readiness and preparedness in managing climate- and environment-related risks.

Developments related to the transition away from IBORs

Liquidity and activity in alternative reference rates (ARRs) continue to develop in markets around the world, with work progressing to resolve certain issues associated with transitioning away from interbank offered rates (IBORs). Regulatory authorities continue to focus on transitioning to ARRs by the end of 2021.

In June 2019, the SNB introduced the SNB policy rate, which replaces the previously used target range for the three-month CHF LIBOR. The SNB policy rate signals the interest rate level for secured short-term money market rates, with a focus on the Swiss Average Rate Overnight (SARON). The introduction of the SNB policy rate is also intended to foster an early transition to SARON.

The Financial Conduct Authority and Bank of England encourage switches from LIBOR to the Sterling Overnight Index Average (SONIA) for sterling interest rate swaps from the first quarter of 2020. In addition, banks need to target a stopping point with regard to the issuance of cash products linked to sterling LIBOR by the end of the third quarter of 2020 and a significant reduction of the number of existing contracts in circulation that reference the rate.

The European Central Bank published the euro short-term rate (€STR), the ARR for EUR markets, for the first time in October 2019.

Liquidity in the US Secured Overnight Financing Rate (SOFR) is still developing and is concentrated among a few issuers, primarily government-sponsored enterprises. SOFR averages are expected to be published beginning in the first half of 2020. The US Commodity Futures Trading Commission (CFTC) has issued no-action letters that provide relief and ensure that market participants are not penalized as they transition from LIBOR to ARRs.

We have a substantial number of contracts linked to IBORs. ARRs do not currently provide a term structure, which will require a change in the contractual terms of products currently indexed on terms other than overnight. We have established a cross-divisional, cross-regional governance structure and change program to address the scale and complexity of the transition.

USA

Tailoring of regulation for foreign banks in the US

On 10 October 2019, the Federal Reserve Board adopted two proposals that tailor how certain capital and liquidity requirements and enhanced prudential standards apply to foreign banking organizations (FBOs) with significant US operations. Under the final rules, FBOs and their US intermediate holding companies (IHCs) will be assigned to categories based on their size measured in total assets as well as on scores relating to four other risk-based indicators: non-bank assets, a weighted measure of short-term wholesale funding, off-balance sheet exposure and cross-jurisdictional activity.

Each of UBS Americas Holdings LLC (our IHC) and our combined US operations, which include our IHC and US branches of UBS AG, are "Category III" firms under the final rule. In this category, among other things, UBS Americas Holding LLC will continue to be: (i) required to submit its capital plan annually; (ii) subject to limitations on distributions through the Comprehensive Capital Analysis and Review (CCAR) process; (iii) subject to annual supervisory stress testing; and (iv) subject to the supplementary leverage ratio. It will also become subject to the newly applicable liquidity coverage ratio requirements and the proposed net stable funding ratio requirements. "Category III firms" are now required to conduct company-run stress tests once every two years, rather than annually, and to submit US resolution plans once every three years.

On 9 July 2019, US regulators adopted rules intended to simplify compliance with certain capital requirements for certain categories of organizations, including Category III organizations such as UBS Americas Holding LLC.

Volcker Rule revisions

US regulators have adopted amendments (2019 Final Rule) to their regulations implementing the Volcker Rule prohibitions on proprietary trading and limitations on covered fund activities. The amendments became effective 1 January 2020, with compliance voluntary from that date and mandatory from 1 January 2021.

Among other changes, the 2019 Final Rule tailors compliance program obligations for trading activities in tiers based on the level of US trading assets and liabilities and relaxes certain conditions for exemptions to the Volcker Rule restrictions to apply to activities engaged in by foreign banking entities outside the United States. We expect UBS will fall within the "Significant" category, which will require UBS to maintain its compliance program but should eliminate certain reporting requirements.

On 30 January 2020, US regulators proposed further amendments to their Volcker Rule regulations. The proposed amendments would permit banking entities to engage in additional activities with covered funds compared with the existing regulations.

Final BEAT tax regulations issued

In December 2019, the US Treasury Department and the Internal Revenue Service issued final regulations regarding the base erosion and anti-abuse tax (BEAT). BEAT was introduced as part of the Tax Cuts and Jobs Act of 2017 with the intended purpose of preventing US corporations from unduly reducing their US taxable income through payments to related foreign parties. While generally retaining most features of the proposed regulations issued in December 2018, including those that were considered helpful to foreign banks operating through branches and subsidiaries in the US (such as UBS), the final regulations contain a number of meaningful clarifications and changes. We continue to expect to have nil to limited exposure to BEAT for the foreseeable future, primarily because payments that our US branches and subsidiaries make to related parties outside the US are expected to remain below the applicable BEAT thresholds.

US Regulation Best Interest

The SEC has adopted rules and interpretations intended to enhance customer protection of retail investors. The effective date of these new provisions will be 30 June 2020. The new rules are intended to align the legal requirements and mandated disclosures for broker-dealers and investment advisers with reasonable investor expectations, while preserving access, in terms of choice and cost, to a variety of investment services and products.

Regulation Best Interest elevates the standard of care for broker-dealers from the current "suitability" requirement to a newly defined "best interest" standard, which applies to any securities transaction or investment strategy involving securities offered to a retail customer and makes clear that a broker-dealer may not put its financial interests ahead of the interests of a retail customer when making recommendations. The regulation also creates new disclosure requirements and additional compliance program requirements. Implementation of these changes will require operational and supervisory changes for UBS's US broker-dealers.

US Securities and Exchange Commission adopts US security-based swaps regulations

In 2019, the SEC adopted a number of rules and rule amendments for security-based swap dealers (SBSDs), including: (i) capital, margin and segregation requirements; (ii) record-keeping, reporting and notification requirements; and (iii) the application of risk mitigation techniques to uncleared portfolios of security-based swaps. In December 2019, the SEC also adopted rules and interpretations (effective 6 April 2020) intended to expand and improve the framework for regulating cross-border security-based swaps. The December 2019 rules address registration requirements for foreign SBSDs, including guidance on the process for obtaining substituted compliance for non-US SBSDs. We expect that UBS AG will be required to register as an SBSD. The date for security-based swap entities to register with the SEC, and to comply with other securities-based swaps regulations (including margin, capital, segregation, record-keeping and reporting, and business conduct requirements), is 6 October 2021.

APAC

China further opening up its financial sector

In July 2019, China's Office of the Financial Stability and Development Committee and the State Administration of Foreign Exchange announced measures designed to accelerate the opening up of the financial sector to foreign financial institutions and investors. Measures include: the removal of foreign ownership limits on securities, fund management and futures companies one year earlier, in 2020; encouraging overseas financial institutions to establish and invest in asset and wealth management entities and currency brokers, and participate in the bond market; and eliminating requirements and quotas for qualified foreign investors to invest in China.

The accelerated removal of the ownership caps for securities companies means that UBS AG is expected to be permitted to increase its stake in UBS Securities China from the current level of 51% to 100% from 1 December 2020. UBS Asset Management will be permitted to apply for a fully owned securities investment fund management company from 1 April 2020.

Risk factors

Certain risks, including those described below, may affect our ability to execute our strategy or our business activities, financial condition, results of operations and prospects. We are inherently exposed to multiple risks, many of which may become apparent only with the benefit of hindsight. As a result, risks that we do not consider to be material or of which we are not currently aware could also adversely affect us. Within each category, the risks that we consider to be most material are presented first.

Market and macroeconomic risks

Performance in the financial services industry is affected by market conditions and the macroeconomic climate

Our businesses are materially affected by market and macroeconomic conditions. Adverse changes in interest rates, credit spreads, securities prices, market volatility and liquidity, foreign exchange rates, commodity prices, and other market fluctuations, as well as changes in investor sentiment, can affect our earnings and ultimately our financial and capital positions.

A market downturn and weak macroeconomic conditions can be precipitated by a number of factors, including geopolitical events, global trade disruption, changes in monetary or fiscal policy, changes in trade policies, natural disasters, pandemics, civil unrest, acts of violence, war or terrorism. Such developments can have unpredictable and destabilizing effects and, because financial markets are global and highly interconnected, even local and regional events can have widespread effects well beyond the countries in which they occur. For example, the outbreak of the Covid-19 virus in China, its spread to other nations as well as quarantine and other efforts to contain the outbreak appear to have had an adverse economic effect on economic activity in China as well as on industries such as travel and tourism. The future effects of the outbreak of Covid-19 are unclear at this time. A significant rise in the number of Covid-19 infections, infections in a wide range of countries and regions, or a prolongation of the outbreak could significantly adversely affect economic growth, affect specific industries or countries or affect our employees and business operations in affected countries. Any of these developments may adversely affect our business or financial results.

If individual countries impose restrictions on cross-border payments, trade, or other exchange or capital controls, or change their currency (for example, if one or more countries should leave the eurozone), we could suffer losses from enforced default by counterparties, be unable to access our own assets, or be unable to effectively manage our risks.

Should the market experience significant volatility, a decrease in business and client activity and market volumes could result, which would adversely affect our ability to generate transaction fees, commissions and margins, particularly in Global Wealth Management and the Investment Bank, as we experienced in the fourth quarter of 2018. A market downturn would likely reduce the volume and valuation of assets that we manage on behalf of clients, which would reduce recurring fee income that is charged based on invested assets in Global Wealth Management and Asset Management and performance-based fees in Asset Management. Such a downturn could also cause a decline in the value of assets that we own and account for as investments or trading positions. In addition, reduced market liquidity or volatility may limit trading opportunities and may therefore reduce transaction-based income and may also impede our ability to manage risks.

We could be materially affected if a crisis develops, regionally or globally, as a result of disruptions in markets due to macroeconomic or political developments, or as a result of the failure of a major market participant. Over time, our strategic plans have become more heavily dependent on our ability to generate growth and revenue in emerging markets, including China, causing us to be more exposed to the risks associated with such markets.

Global Wealth Management derives revenues from all the principal regions, but has a greater concentration in Asia than many peers and a substantial presence in the US, unlike many European peers. The Investment Bank's business is more heavily weighted to Europe and Asia than our peers, while its derivatives business is more heavily weighted to structured products for wealth management clients, in particular with European and Asian underlyings. Our performance may therefore be more affected by political, economic and market developments in these regions and businesses, including the effects of the Covid-19 outbreak, than some other financial service providers.

Low and negative interest rates in Switzerland and the eurozone could continue to negatively affect our net interest income

The continuing low or negative interest rate environment may further erode interest margins and adversely affect the net interest income generated by the Personal & Corporate Banking and Global Wealth Management businesses. The Swiss National Bank permits Swiss banks to make deposits up to a threshold at zero interest and has recently increased this threshold. Any reduction in or limitation on the use of this exemption from the otherwise applicable negative interest rates could exacerbate the effect of negative interest rates in Switzerland on our business.

Low and negative interest rates may also affect customer behavior and hence our overall balance sheet structure. Mitigating actions that we have taken, or may take in the future, such as the introduction of selective deposit fees or minimum lending rates, have resulted and may further result in the loss of customer deposits (a key source of funding for us), net new money outflows and a declining market share in our Swiss lending business.

Our shareholders' equity and capital are also affected by changes in interest rates. In particular, the calculation of our Swiss pension plan's net defined benefit assets and liabilities is sensitive to the applied discount rate and to fluctuations in the value of pension plan assets. Any further reduction in interest rates may lower the discount rates and result in pension plan deficits as a result of the long duration of corresponding liabilities. This could lead to a corresponding reduction in our equity and common equity tier 1 (CET1) capital.

Our credit risk exposure to clients, trading counterparties and other financial institutions would increase under adverse economic conditions

Credit risk is an integral part of many of our activities, including lending, underwriting and derivatives activities. Adverse economic or market conditions may lead to impairments and defaults on these credit exposures. Losses may be exacerbated by declines in the value of collateral securing loans and other exposures. In our prime brokerage, securities finance and Lombard lending businesses, we extend substantial amounts of credit against securities collateral, the value or liquidity of which may decline rapidly. Our Swiss mortgage and corporate lending portfolios are a large part of our overall lending. We are therefore exposed to the risk of adverse economic developments in Switzerland, including the strength of the Swiss franc and its effect on Swiss exports, prevailing negative interest rates by the Swiss National Bank, economic conditions within the eurozone or the EU, and the evolution of agreements between Switzerland and the EU or European Economic Area, which represent Switzerland's largest export market. In addition, under the IFRS 9 expected credit loss (ECL) regime, credit loss expenses may increase rapidly at the onset of an economic downturn as a result of higher levels of credit impairments (stage 3), as well as higher ECL from stages 1 and 2, only gradually diminishing once the economic outlook improves. Substantial increases in ECL could exceed expected loss for regulatory capital purposes and adversely affect our CET1 capital and regulatory capital ratios.

Our plans to ensure uninterrupted business dealings as the UK withdraws from the EU may not be effective

Our plans to ensure uninterrupted business dealings as the UK withdraws from the EU may not be effective if the UK and the EU do not reach a deal by the end of the transition period, scheduled to end on 31 December, 2020, resulting in disruptions across the financial sector.

To prepare our business for the UK withdrawal from the EU, we completed a merger of UBS Limited, our UK-based subsidiary, into UBS Europe SE, our Germany-headquartered European subsidiary, which is under the direct supervision of the European Central Bank. All clients and counterparties of UBS Limited who would not be able to be serviced by UBS AG, London Branch following the exit of the UK from the EU have been transferred to UBS Europe SE.

Regulators in both the UK and Europe have taken measures to minimize business disruption in the financial sector in the event of a no-deal scenario, including the UK implementation of a temporary permissions regime so that firms currently using an EU passport for business into the UK can continue operating within the scope of their existing permissions, as well as the recognition by EU authorities of three UK-authorized central counterparties. Nevertheless, significant risk of a disorderly exit of the UK from the EU remains and, should this risk materialize, it could cause significant disruption across the financial industry and, under extreme conditions, contribute to a weakening of the global economy.

Currency fluctuation

We are subject to currency fluctuation risks. Although our change from the Swiss franc to the US dollar as our functional and presentation currency in 2018 reduces our exposure to currency fluctuation risks with respect to the Swiss franc, a substantial portion of our assets and liabilities are denominated in currencies other than the US dollar. Additionally, in order to hedge our CET1 capital ratio, our CET1 capital must have foreign currency exposure, which leads to currency sensitivity. As a consequence, it is not possible to simultaneously fully hedge both the amount of capital and the capital ratio. Accordingly, changes in foreign exchange rates may continue to adversely affect our profits, balance sheet and capital leverage and liquidity coverage ratios.

Regulatory and legal risks

Material legal and regulatory risks arise in the conduct of our business

As a global financial services firm operating in more than 50 countries, we are subject to many different legal, tax and regulatory regimes, including extensive regulatory oversight, and are exposed to significant liability risk. We are subject to a large number of claims, disputes, legal proceedings and government investigations, and we expect that our ongoing business activities will continue to give rise to such matters in the future. The extent of our financial exposure to these and other matters is material and could substantially exceed the level of provisions that we have established. We are not able to predict the financial and non-financial consequences these matters may have when resolved.

We may be subject to adverse preliminary determinations or court decisions that may negatively affect public perception and our reputation, result in prudential actions from regulators, and cause us to record additional provisions for the matter even when we believe we have substantial defenses and expect to ultimately achieve a more favorable outcome. This risk is illustrated by the award of aggregate penalties and damages of EUR 4.5 billion by the court of first instance in France, which we have appealed and will be retried in the Court of Appeal in June 2020.

Resolution of regulatory proceedings may require us to obtain waivers of regulatory disqualifications to maintain certain operations; may entitle regulatory authorities to limit, suspend or terminate licenses and regulatory authorizations; and may permit financial market utilities to limit, suspend or terminate our participation in them. Failure to obtain such waivers, or any limitation, suspension or termination of licenses, authorizations or participations, could have material adverse consequences for us.

Our settlements with governmental authorities in connection with foreign exchange, London Interbank Offered Rates (LIBOR) and other benchmark interest rates starkly illustrate the significantly increased level of financial and reputational risk now associated with regulatory matters in major jurisdictions. In connection with investigations related to LIBOR and other benchmark rates and to foreign exchange and precious metals, very large fines and disgorgement amounts were assessed against us, and we were required to enter guilty pleas despite our full cooperation with the authorities in the investigations, and despite our receipt of conditional leniency or conditional immunity from anti-trust authorities in a number of jurisdictions, including the US and Switzerland.

Ever since our material losses arising from the 2007–2009 financial crisis, we have been subject to a very high level of regulatory scrutiny and to certain regulatory measures that constrain our strategic flexibility. While we believe we have remediated the deficiencies that led to those losses, as well as to the unauthorized trading incident announced in September 2011, the effects on our reputation, as well as on relationships with regulatory authorities of the LIBOR-related settlements of 2012 and settlements with some regulators of matters related to our foreign exchange and precious metals business, as well as the extensive efforts required to implement new regulatory expectations, have resulted in continued scrutiny.

We are in active dialog with regulators concerning the actions we are taking to improve our operational risk management, risk control, anti-money laundering, data management and other frameworks, and otherwise seek to meet supervisory expectations, but there can be no assurance that our efforts will have the desired effects. As a result of this history, our level of risk with respect to regulatory enforcement may be greater than that of some of our peers.

Substantial changes in regulation may adversely affect our businesses and our ability to execute our strategic plans

We are subject to significant new regulatory requirements, including recovery and resolution planning, changes in capital and prudential standards, as well as new and revised market standards and fiduciary duties. Notwithstanding attempts by regulators to align their efforts, the measures adopted or proposed for banking regulation differ significantly across the major jurisdictions, making it increasingly difficult to manage a global institution. In addition, Swiss regulatory changes with regard to such matters as capital and liquidity have often proceeded more quickly than those in other major jurisdictions, and Switzerland's requirements for major international banks are among the strictest of the major financial centers. This could put Swiss banks, such as UBS, at a disadvantage when competing with peer financial institutions subject to more lenient regulation or with unregulated non-bank competitors.

Our implementation of additional regulatory requirements and changes in supervisory standards, as well as our compliance with existing laws and regulations, continue to receive heightened scrutiny from supervisors. If we do not meet supervisory expectations in relation to these or other matters, or if additional supervisory or regulatory issues arise, we would likely be subject to further regulatory scrutiny as well as measures that might further constrain our strategic flexibility.

Resolvability and resolution and recovery planning: We have moved significant operations into subsidiaries to improve resolvability and meet other regulatory requirements, and this has resulted in substantial implementation costs, increased our capital and funding costs and reduced operational flexibility. For example, we have transferred all of our US subsidiaries under a US intermediate holding company to meet US regulatory requirements, and have transferred substantially all the operations of Personal & Corporate Banking and Global Wealth Management booked in Switzerland to UBS Switzerland AG to improve resolvability.

These changes, particularly the transfer of operations to subsidiaries, require significant time and resources to implement, and create operational, capital, liquidity, funding and tax inefficiencies. In addition, they may increase our aggregate credit exposure to counterparties as they transact with multiple entities within the Group. Furthermore, our operations in subsidiaries are subject to local capital, liquidity, stable funding, capital planning and stress testing requirements. These requirements have resulted in increased capital and liquidity requirements in affected subsidiaries, which limit our operational flexibility and negatively affect our ability to benefit from synergies between business units and to distribute earnings to the Group.

Under the Swiss too-big-to-fail (TBTF) framework, we are required to put in place viable emergency plans to preserve the operation of systemically important functions in the event of a failure. Moreover, under this framework and similar regulations in the US, the UK, the EU and other jurisdictions in which we operate, we are required to prepare credible recovery and resolution plans detailing the measures that would be taken to recover in a significant adverse event or in the event of winding down the Group or the operations in a host country through resolution or insolvency proceedings. If a recovery or resolution plan that we produce is determined by the relevant authority to be inadequate or not credible, relevant regulation may permit the authority to place limitations on the scope or size of our business in that jurisdiction, or oblige us to hold higher amounts of capital or liquidity or to change our legal structure or business in order to remove the relevant impediments to resolution. FINMA is expected to make a formal determination of whether the emergency plans of Swiss systemically relevant banks are "credible" in early 2020. As a result of this review, FINMA may require us to amend the plan or put other measures in place.

Capital and prudential standards: As an internationally active Swiss systemically relevant bank (an SRB), we are subject to capital and total loss-absorbing capacity (TLAC) requirements that are among the most stringent in the world. Moreover, many of our subsidiaries must comply with minimum capital, liquidity and similar requirements and, as a result, UBS Group AG and UBS AG have contributed a significant portion of their capital and provide substantial liquidity to these subsidiaries. These funds are available to meet funding and collateral needs in the relevant entities, but are generally not readily available for use by the Group as a whole.

We expect our risk-weighted assets (RWA) to further increase as the effective date for capital standards promulgated by the Basel Committee on Banking Supervision (the BCBS) draws nearer, although the effective date of the proposals is likely to be later than 2022 contemplated by the BCBS standard. In addition, the Board of Governors of the Federal Reserve System adopted two proposals last year regarding certain capital and liquidity requirements and enhanced prudential standards applicable to foreign banking organizations (FBOs) with significant US operations. Under the proposal, it is expected that UBS Americas Holding LLC would continue to be subject to annual assessments of its capital plan through the Comprehensive Capital Analysis and Review (CCAR) process, a supplementary leverage ratio, newly applicable liquidity coverage ratio requirements and new net stable funding ratio requirements.

These additional increases in capital and liquidity standards could significantly curtail our ability to pursue strategic opportunities and to distribute risk.

Market regulation and fiduciary standards: Our wealth and asset management businesses operate in an environment of increasing regulatory scrutiny and changing standards with respect to fiduciary and other standards of care and the focus on mitigating or eliminating conflicts of interest between a manager or advisor and the client, which require effective implementation across the global systems and processes of investment managers and other industry participants. For example, the SEC has adopted a new Regulation Best Interest that is intended to enhance and clarify the duties of brokers and investment advisers to retail customers. Regulation Best Interest will apply to a large portion of Global Wealth Management's business in the US, and we will likely be required to materially change business processes, policies and the terms on which we interact with these clients in order to comply with these rules.

Previously, we have incurred substantial costs in implementing a compliance and monitoring framework in connection the with the Volcker Rule under the Dodd–Frank Act and have modified our business activities both inside and outside the US to conform to the Volcker Rule's activity limitations. In 2019, US regulators have adopted amendments (the 2019 Final Rule*)* to their regulations implementing the Volcker Rule prohibitions on proprietary trading and limitations on covered fund activities. The amendments were effective as of 1 January 2020 and compliance is mandatory from 1 January 2021. We may incur additional costs in the short term to implement the changes to the operation of our Volcker compliance program, required by the 2019 Final Rule. However, these changes may reduce the long-term burden on our operations. We may also become subject to other similar regulations substantively limiting the types of activities in which we may engage or the way we conduct our operations.

Some of the regulations applicable to UBS AG as a registered swap dealer with the Commodity Futures Trading Commission (CFTC) in the US, and certain regulations that will be applicable when UBS AG registers as a security-based swap dealer with the US Securities and Exchange Commission (the SEC), apply to UBS AG globally, including those relating to swap data reporting, record-keeping, compliance and supervision. As a result, in some cases, US rules duplicate or may conflict with legal requirements applicable to us elsewhere, including in Switzerland, and may place us at a competitive disadvantage to firms that are not required to register in the US with the SEC or CFTC.

In many instances, we provide services on a cross-border basis, and we are therefore sensitive to barriers restricting market access for third-country firms. In particular, efforts in the EU to harmonize the regime for third-country firms to access the European market may have the effect of creating new barriers that adversely affect our ability to conduct business in these jurisdictions from Switzerland. In addition, a number of jurisdictions are increasingly regulating cross-border activities based on determinations of equivalence of home country regulation, substituted compliance or similar principles of comity. A negative determination with respect to Swiss equivalence could limit our access to the market in those jurisdictions and may negatively influence our ability to act as a global firm. For example, the EU declined to extend the equivalence determination for Swiss exchanges, which lapsed as of 30 June 2019. Reciprocally, the regulations that Switzerland adopted to prohibit trading of shares issued by Swiss incorporated companies on EU venues came into effect on 1 July 2019.

UBS experienced cross-border outflows over a number of years as a result of heightened focus by fiscal authorities on cross-border investment and fiscal amnesty programs, in anticipation of the implementation in Switzerland of the global automatic exchange of tax information, and as a result of the measures UBS has implemented in response to these changes. Further changes in local tax laws or regulations and their enforcement, the implementation of cross-border tax information exchange regimes, national tax amnesty or enforcement programs or similar actions may affect our clients' ability or willingness to do business with us and could result in additional cross-border outflows.

Our stated capital returns objective is based, in part, on capital ratios that are subject to regulatory change and may fluctuate significantly

We plan to operate with a CET1 capital ratio of around 13% and a CET1 leverage ratio of around 3.7%. Our ability to maintain these ratios is subject to numerous risks, including the financial results of our businesses, the effect of changes to capital standards, methodologies and interpretations that may adversely affect the calculation of our CET1 ratios, the imposition of risk add-ons or capital buffers, and the application of additional capital, liquidity and similar requirements to subsidiaries. The results of our businesses may be adversely affected by events arising from other factors described herein. In some cases, such as litigation and regulatory risk and operational risk events, losses may be sudden and large. These risks could reduce the amount of capital available for return to shareholders and hinder our ability to achieve our capital returns target of a progressive cash dividend coupled with a share repurchase program.

Capital strength is a key component of our business model. Capital strength enables us to grow our businesses, and absorb increases in regulatory and capital requirements. It reassures our clients and stakeholders, forms the basis for our capital return policy and contributes to our credit ratings. Our capital ratios are driven primarily by RWA, the leverage ratio denominator and eligible capital, all of which may fluctuate based on a number of factors, some of which are outside our control.

Our eligible capital may be reduced by losses recognized within net profit or other comprehensive income. Eligible capital may also be reduced for other reasons, including acquisitions which change the level of goodwill, changes in temporary differences related to deferred tax assets included in capital, adverse currency movements affecting the value of equity, prudential adjustments that may be required due to the valuation uncertainty associated with certain types of positions, and changes in the value of certain pension fund assets and liabilities or in the interest rate and other assumptions used to calculate the changes in our net defined benefit obligation recognized in other comprehensive income.

RWA are driven by our business activities, by changes in the risk profile of our exposures, by changes in our foreign currency exposures and foreign exchange rates, and by regulation. For instance, substantial market volatility, a widening of credit spreads, adverse currency movements, increased counterparty risk, deterioration in the economic environment or increased operational risk could result in an increase in RWA. We have significantly reduced our market risk and credit risk RWA in recent years. However, increases in operational risk RWA, particularly those arising from litigation, regulatory and similar matters, and regulatory changes in the calculation of RWA, and regulatory add-ons to RWA, have offset a substantial portion of this reduction. Changes in the calculation of RWA, the imposition of additional supplemental RWA charges or multipliers applied to certain exposures and other methodology changes, as well as the implementation of the capital standards promulgated by the Basel Committee on Banking Supervision, which will take effect in 2022, could substantially increase our RWA.

The leverage ratio is a balance sheet-driven measure and therefore limits balance sheet-intensive activities, such as lending, more than activities that are less balance sheet intensive, and it may constrain our business even if we satisfy other risk-based capital requirements. Our leverage ratio denominator is driven by, among other things, the level of client activity, including deposits and loans, foreign exchange rates, interest rates and other market factors. Many of these factors are wholly or partly outside of our control.

The effect of taxes on our financial results is significantly influenced by tax law changes and reassessments of our deferred tax assets

Our effective tax rate is highly sensitive to our performance, our expectation of future profitability and statutory tax rates. Based on prior years' tax losses, we have recognized deferred tax assets (DTAs) reflecting the probable recoverable level based on future taxable profit as informed by our business plans. If our performance is expected to produce diminished taxable profit in future years, particularly in the US, we may be required to write down all or a portion of the currently recognized DTAs through the income statement in excess of anticipated amortization. This would have the effect of increasing our effective tax rate in the year in which any write-downs are taken. Conversely, if we expect the performance of entities in which we have unrecognized tax losses to improve, particularly in the US or the UK, we could potentially recognize additional DTAs. The effect of doing so would be to reduce our effective tax rate in years in which additional DTAs are recognized and to increase our effective tax rate in future years. Our effective tax rate is also sensitive to any future reductions in statutory tax rates, particularly in the US, which would cause the expected future tax benefit from items such as tax loss carry-forwards in the affected locations to diminish in value. This, in turn, would cause a write-down of the associated DTAs. For example, the reduction in the US federal corporate tax rate to 21% from 35% introduced by the US Tax Cuts and Jobs Act (TCJA) resulted in a USD 2.9 billion net write-down in the Group's DTAs in the fourth quarter of 2017.

We generally revalue our DTAs in the fourth quarter of the financial year based on a reassessment of future profitability taking into account our updated business plans. We consider the performance of our businesses and the accuracy of historical forecasts, tax rates and other factors in evaluating the recoverability of our DTAs, including the remaining tax loss carry-forward period and our assessment of expected future taxable profits over the life of DTAs. Estimating future profitability is inherently subjective and is particularly sensitive to future economic, market and other conditions, which are difficult to predict.

Our results in past years have demonstrated that changes in the recognition of DTAs can have a very significant effect on our reported results. Any future change in the manner in which UBS remeasures DTAs could affect UBS's effective tax rate, particularly in the year in which the change is made.

Our full-year effective tax rate could change if aggregate tax expenses in respect of profits from branches and subsidiaries without loss coverage differ from what is expected, or if branches and subsidiaries generate tax losses that we cannot benefit from through the income statement. In particular, losses at entities or branches that cannot offset for tax purposes taxable profits in other group entities, and which do not result in additional DTA recognition, may increase our effective tax rate. In addition, tax laws or the tax authorities in countries where we have undertaken legal structure changes may prevent the transfer of tax losses incurred in one legal entity to newly organized or reorganized subsidiaries or affiliates or may impose limitations on the utilization of tax losses that relate to businesses formerly conducted by the transferor. Were this to occur in situations where there were also limited planning opportunities to utilize the tax losses in the originating entity, the DTAs associated with such tax losses may be required to be written down through the income statement.

Changes in tax law may materially affect our effective tax rate, and, in some cases, may substantially affect the profitability of certain activities. In addition, statutory and regulatory changes, as well as changes to the way in which courts and tax authorities interpret tax laws, including assertions that we are required to pay taxes in a jurisdiction as a result of activities connected to that jurisdiction constituting a permanent establishment or similar theory, and changes in our assessment of uncertain tax positions, could cause the amount of taxes we ultimately pay to materially differ from the amount accrued.

Discontinuance of, or changes to, benchmark rates may require adjustments to our agreements with clients and other market participants, as well as to our systems and processes

Since April 2013, the UK Financial Conduct Authority (the FCA) has regulated LIBOR, and regulators in other jurisdictions have increased oversight of other interbank offered rates (IBORs) and similar benchmark rates. Efforts to transition from IBORs to alternative benchmark rates are underway in several jurisdictions. The FCA announced in July 2017 that it will not continue beyond 2021 to regulate LIBOR or take other actions to sustain LIBOR, and urged users to plan the transition to alternative reference rates. As a result, there can be no guarantee that LIBOR will be determined after 2021 on the same basis as at present, if at all.

Liquidity and activity in alternative reference rates *(ARRs)* continue to develop in markets globally, with work progressing to resolve certain issues associated with transitioning away from IBORs. Regulatory authorities continue to focus on transitioning to ARRs by the end of 2021. The Alternative Reference Rates Committee is considering potential legislative solutions that would mitigate legal risks related to legacy contracts in the event of IBOR discontinuation. In addition, in October 2019, the US Treasury Department and Internal Revenue Service published proposed regulations providing tax relief related to issues that may arise as a result of the modification of debt, derivative, and other financial contracts from LIBOR-based language to ARRs. The European Central Bank published the euro short-term rate, the risk-free rate for euro markets, for the first time on 2 October 2019, reflecting trading activity on 1 October 2019. The Bank of England Working Group on Sterling Risk-Free Reference Rates continues to be supportive of the development of a term (Sterling Overnight Index Average) reference rate.

We have a substantial number of contracts linked to IBORs. ARRs do not currently provide a term structure, which will require a change in the contractual terms of products currently indexed on terms other than overnight. In some cases, contracts may contain provisions intended to provide a fallback interest rate in the event of a brief unavailability of the relevant IBOR. These provisions may not be effective or may produce arbitrary results in the event of a permanent cessation of the relevant IBOR. In addition, numerous of our internal systems, limits and processes make use of IBORs as reference rates. Transition to replacement reference rates will require significant investment and effort.

If UBS experiences financial difficulties, FINMA has the power to open restructuring or liquidation proceedings or impose protective measures in relation to UBS Group AG, UBS AG or UBS Switzerland AG, and such proceedings or measures may have a material adverse effect on UBS's shareholders and creditors

Under the Swiss Banking Act, FINMA is able to exercise broad statutory powers with respect to Swiss banks and Swiss parent companies of financial groups, such as UBS Group AG, UBS AG and UBS Switzerland AG, if there is justified concern that the entity is over-indebted, has serious liquidity problems or, after the expiration of any relevant deadline, no longer fulfills capital adequacy requirements. Such powers include ordering protective measures, instituting restructuring proceedings (and exercising any Swiss resolution powers in connection therewith), and instituting liquidation proceedings, all of which may have a material adverse effect on shareholders and creditors or may prevent UBS Group AG, UBS AG or UBS Switzerland AG from paying dividends or making payments on debt obligations.

UBS would have limited ability to challenge any such protective measures, and creditors and shareholders would have no right under Swiss law or in Swiss courts to reject them, seek their suspension, or challenge their imposition, including measures that require or result in the deferment of payments.

If restructuring proceedings are opened with respect to UBS Group AG, UBS AG or UBS Switzerland AG, the resolution powers that FINMA may exercise include the power to: (i) transfer all or some of the assets, debt and other liabilities, and contracts of the entity subject to proceedings to another entity; (ii) stay for a maximum of two business days (a) the termination of, or the exercise of rights to terminate, netting rights, (b) rights to enforce or dispose of certain types of collateral or (c) rights to transfer claims, liabilities or certain collateral, under contracts to which the entity subject to proceedings is a party; and/or (iii) partially or fully write down the equity capital and, if such equity capital is fully written down, convert into equity or write down the capital and other debt instruments of the entity subject to proceedings. Shareholders and creditors would have no right to reject, or to seek the suspension of, any restructuring plan pursuant to which such resolution powers are exercised. They would have only limited rights to challenge any decision to exercise resolution powers or to have that decision reviewed by a judicial or administrative process or otherwise.

Upon full or partial write-down of the equity and debt of the entity subject to restructuring proceedings, the relevant shareholders and creditors would receive no payment in respect of the equity and debt that is written down, the write-down would be permanent, and the investors would not, at such time or at any time thereafter, receive any shares or other participation rights, or be entitled to any write-up or any other compensation in the event of a potential recovery of the debtor. If FINMA orders the conversion of debt of the entity subject to restructuring proceedings into equity, the securities received by the investors may be worth significantly less than the original debt and may have a significantly different risk profile, and such conversion would also dilute the ownership of existing shareholders. In addition, creditors receiving equity would be effectively subordinated to all creditors of the restructured entity in the event of a subsequent winding up, liquidation or dissolution of the restructured entity, which would increase the risk that investors would lose all or some of their investment.

FINMA has significant discretion in the exercise of its powers in connection with restructuring proceedings. Furthermore, certain categories of debt obligations, such as certain types of deposits, are subject to preferential treatment. As a result, holders of obligations of an entity subject to a Swiss restructuring proceeding may have their obligations written down or converted into equity even though obligations ranking on par with or junior to such obligations are not written down or converted.

Our financial results may be negatively affected by changes to assumptions and valuations, as well as changes to accounting standards

We prepare our consolidated financial statements in accordance with International Financial Reporting Standards (IFRS). The application of these accounting standards requires the use of judgment based on estimates and assumptions that may involve significant uncertainty at the time they are made. This is the case, for example, with respect to the measurement of fair value of financial instruments, the recognition of deferred tax assets, the assessment of the impairment of goodwill, expected credit losses and estimation of provisions for contingencies, including litigation, regulatory and similar matters. Such judgments, including the underlying estimates and assumptions, which encompass historical experience, expectations of the future and other factors, are regularly evaluated to determine their continuing relevance based on current conditions. Using different assumptions could cause the reported results to differ. Changes in assumptions, or failure to make the changes necessary to reflect evolving market conditions, may have a significant effect on the financial statements in the periods when changes occur. Estimates of provisions for contingencies may be subject to a wide range of potential outcomes and significant uncertainty. For example, the broad range of potential outcomes in UBS AG's proceeding in France increases the uncertainty associated with assessing the appropriate provision. If the estimates and assumptions in future periods deviate from the current outlook, UBS AG's financial results may also be negatively affected.

Changes to IFRS or interpretations thereof may cause future reported results and financial position to differ from current expectations, or historical results to differ from those previously reported due to the adoption of accounting standards on a retrospective basis. Such changes may also affect our regulatory capital and ratios. For example, we adopted IFRS 9 effective 1 January 2018, which required us to change the accounting treatment of financial instruments measured at amortized cost and certain other positions, to record loans from inception net of expected credit loss (ECL) allowances and provisions instead of recording credit losses on an incurred loss basis. This may result in a significant increase in recognized credit loss allowances in the future and greater volatility in the income statement as ECL changes in response to developments in the credit cycle and composition of our loan portfolio. The effect may be more pronounced in a deteriorating economic environment.

Strategy, management and operations risks

We may not be successful in the ongoing execution of our strategic plans

We have transformed UBS to focus on our Global Wealth Management business and our universal bank in Switzerland, complemented by Asset Management and a significantly smaller and more capital-efficient Investment Bank; we have substantially reduced the risk-weighted assets and leverage ratio denominator usage in Corporate Center; and made significant cost reductions. Risk remains that going forward we may not succeed in executing our strategy or achieving our performance targets, or may be delayed in doing so. Macroeconomic conditions, geopolitical uncertainty, changes to regulatory requirements and the continuing costs of meeting these requirements have prompted us to adapt our targets and ambitions in the past and we may need to do so again in the future.

To achieve our strategic plans, we expect to continue to make significant expenditures on technology and infrastructure to improve client experience, improve and further enable digital offerings and increase efficiency. Our investments in new technology may not fully achieve our objectives or improve our ability to attract and retain customers. In addition, we will likely face competition in providing digitally enabled offerings from both existing competitors and new financial service providers in various portions of the value chain. For example, technological advances and the growth of e-commerce have made it possible for e-commerce firms and other companies to offer products and services that were traditionally offered only by banks. These advances have also allowed financial institutions and other companies to provide digitally based financial solutions, including electronic securities trading, payments processing and online automated algorithmic-based investment advice at a low cost to their customers. We may have to lower our prices, or risk losing customers as a result. Our ability to develop and implement competitive digitally enabled offerings and processes will be an important factor in our ability to compete.

As part of our strategy, we seek to improve our operating efficiency, in part by controlling our costs. We may not be able to identify feasible cost reduction opportunities that are consistent with our business goals and cost reductions may be realized later or may be smaller than we anticipate. Higher temporary and permanent regulatory costs and higher business demand than anticipated have partly offset cost reductions and delayed the achievement of our past cost reduction targets, and we could continue to be challenged in the execution of our ongoing efforts to improve operating efficiency.

Changes in our workforce as a result of outsourcing, nearshoring, offshoring, insourcing or staff reductions may introduce new operational risks that, if not effectively addressed, could affect our ability to achieve cost and other benefits from such changes, or could result in operational losses.

As we implement effectiveness and efficiency programs, we may also experience unintended consequences, such as the unintended loss or degradation of capabilities that we need in order to maintain our competitive position, achieve our targeted returns or meet existing or new regulatory requirements and expectations.

Operational risks affect our business

Our businesses depend on our ability to process a large number of transactions, many of which are complex, across multiple and diverse markets in different currencies, to comply with requirements of many different legal and regulatory regimes to which we are subject and to prevent, or promptly detect and stop, unauthorized, fictitious or fraudulent transactions. We also rely on access to, and on the functioning of, systems maintained by third parties, including clearing systems, exchanges, information processors and central counterparties. Any failure of our or third-party systems could have an adverse effect on us. Our operational risk management and control systems and processes are designed to help ensure that the risks associated with our activities – including those arising from process error, failed execution, misconduct, unauthorized trading, fraud, system failures, financial crime, cyberattacks, breaches of information security, inadequate or ineffective access controls and failure of security and physical protection – are appropriately controlled. If our internal controls fail or prove ineffective in identifying and remedying these risks, we could suffer operational failures that might result in material losses, such as the substantial loss we incurred from the unauthorized trading incident announced in September 2011.

We use automation as part of our efforts to improve efficiency, reduce the risk of error and improve our client experience. We intend to expand the use of robotic processing, machine learning and artificial intelligence to further these goals. Use of these tools presents their own risks, including the need for effective design and testing; the quality of the data used for development and operation of machine learning and artificial intelligence tools may adversely affect their functioning and result in errors and other operational risks.

We and other financial services firms have been subject to breaches of security and to cyber- and other forms of attack, some of which are sophisticated and targeted attacks intended to gain access to confidential information or systems, disrupt service or destroy data. These attacks may be attempted through the introduction of viruses or malware, phishing and other forms of social engineering, distributed denial of service attacks and other means. These attempts may occur directly, or using equipment or security passwords of our employees, third-party service providers or other users. In addition to external attacks, we have experienced loss of client data from failure by employees and others to follow internal policies and procedures and from misappropriation of our data by employees and others. We may not be able to anticipate, detect or recognize threats to our systems or data and our preventative measures may not be effective to prevent an attack or a security breach. In the event of a security breach, notwithstanding our preventative measures, we may not immediately detect a particular breach or attack. Once a particular attack is detected, time may be required to investigate and assess the nature and extent of the attack. A successful breach or circumvention of security of our systems or data could have significant negative consequences for us, including disruption of our operations, misappropriation of confidential information concerning us or our customers, damage to our systems, financial losses for us or our customers, violations of data privacy and similar laws, litigation exposure and damage to our reputation.

We are subject to complex and frequently changing laws and regulations governing the protection of client and personal data, such as the EU General Data Protection Regulation. Ensuring that we comply with applicable laws and regulations when we collect, use and transfer personal information requires substantial resources and may affect the ways in which we conduct our business. In the event that we fail to comply with applicable laws, we may be exposed to regulatory fines and penalties and other sanctions. We may also incur such penalties if our vendors or other service providers or clients or counterparties fail to comply with these laws or to maintain appropriate controls over protected data. In addition, any loss or exposure of client or other data may adversely damage our reputation and adversely affect our business.

A major focus of US and other countries' governmental policies relating to financial institutions in recent years has been on fighting money laundering and terrorist financing. We are required to maintain effective policies, procedures and controls to detect, prevent and report money laundering and terrorist financing, and to verify the identity of our clients under the laws of many of the countries in which we operate. We are also subject to laws and regulations related to corrupt and illegal payments to government officials by others, such as the US Foreign Corrupt Practices Act and the UK Bribery Act. We have implemented policies, procedures and internal controls that are designed to comply with such laws and regulations. Notwithstanding this, US regulators have found deficiencies in the design and operation of anti-money laundering programs in our US operations. We have undertaken a significant program to address these regulatory findings with the objective of fully meeting regulatory expectations for our programs. Failure to maintain and implement adequate programs to combat money laundering, terrorist financing or corruption, or any failure of our programs in these areas, could have serious consequences both from legal enforcement action and from damage to our reputation. Frequent changes in sanctions imposed and increasingly complex sanctions imposed on countries, entities and individuals increase our cost of monitoring and complying with sanctions requirements and increase the risk that we will not identify in a timely manner previously permissible client activity that is subject to a sanction.

As a result of new and changed regulatory requirements and the changes we have made in our legal structure, the volume, frequency and complexity of our regulatory and other reporting has significantly increased. Regulators have also significantly increased expectations regarding our internal reporting and data aggregation, as well as management reporting. We have incurred and continue to incur significant costs to implement infrastructure to meet these requirements. Failure to meet external reporting requirements accurately and in a timely manner or failure to meet regulatory expectations of internal reporting, data aggregation and management reporting could result in enforcement action or other adverse consequences for us.

Certain types of operational control weaknesses and failures could also adversely affect our ability to prepare and publish accurate and timely financial reports.

In addition, despite the contingency plans that we have in place, our ability to conduct business may be adversely affected by a disruption in the infrastructure that supports our businesses and the communities in which we operate. This may include a disruption due to natural disasters, pandemics, civil unrest, war or terrorism and involve electrical, communications, transportation or other services that we use or that are used by third parties with whom we conduct business.

We may not be successful in implementing changes in our wealth management businesses to meet changing market, regulatory and other conditions

In recent years, inflows from lower-margin segments and markets have been replacing outflows from higher-margin segments and markets, in particular for cross-border clients. This dynamic, combined with changes in client product preferences as a result of which low-margin products account for a larger share of our revenues than in the past, has put downward pressure on Global Wealth Management's margins.

As the discussion above indicates, we are exposed to possible outflows of client assets in our asset-gathering businesses and to changes affecting the profitability of Global Wealth Management, in particular. Initiatives that we may implement to overcome the effects of changes in the business environment on our profitability, balance sheet and capital positions may not succeed in counteracting those effects and may cause net new money outflows and reductions in client deposits, as happened with our balance sheet and capital optimization program in 2015. There is no assurance that we will be successful in our efforts to offset the adverse effect of these or similar trends and developments.

We may be unable to identify or capture revenue or competitive opportunities, or retain and attract qualified employees

The financial services industry is characterized by intense competition, continuous innovation, restrictive, detailed, and sometimes fragmented regulation and ongoing consolidation. We face competition at the level of local markets and individual business lines, and from global financial institutions that are comparable to us in their size and breadth. Barriers to entry in individual markets and pricing levels are being eroded by new technology. We expect these trends to continue and competition to increase. Our competitive strength and market position could be eroded if we are unable to identify market trends and developments, do not respond to such trends and developments by devising and implementing adequate business strategies, do not adequately develop or update our technology including our digital channels and tools, or are unable to attract or retain the qualified people needed.

The amount and structure of our employee compensation is affected not only by our business results, but also by competitive factors and regulatory considerations.

In recent years, in response to the demands of various stakeholders, including regulatory authorities and shareholders, and in order to better align the interests of our staff with other stakeholders, we have increased average deferral periods for stock awards, expanded forfeiture provisions and, to a more limited extent, introduced clawback provisions for certain awards linked to business performance. We have also introduced individual caps on the proportion of fixed to variable pay for the Group Executive Board (GEB) members, as well as certain other employees.

Constraints on the amount or structure of employee compensation, higher levels of deferral, performance conditions and other circumstances triggering the forfeiture of unvested awards may adversely affect our ability to retain and attract key employees. The loss of key staff and the inability to attract qualified replacements could seriously compromise our ability to execute our strategy and to successfully improve our operating and control environment, and could affect our business performance. Swiss law requires that shareholders approve the compensation of the Board of Directors (the BoD) and the GEB each year. If our shareholders fail to approve the compensation for the GEB or the BoD, this could have an adverse effect on our ability to retain experienced directors and our senior management.

We depend on our risk management and control processes to avoid or limit potential losses in our businesses

Controlled risk-taking is a major part of the business of a financial services firm. Some losses from risk-taking activities are inevitable, but to be successful over time, we must balance the risks we take against the returns generated. Therefore we must diligently identify, assess, manage and control our risks, not only in normal market conditions but also as they might develop under more extreme, stressed conditions, when concentrations of exposures can lead to severe losses.

As seen during the financial crisis of 2007–2009, we have not always been able to prevent serious losses arising from extreme or sudden market events that are not anticipated by our risk measures and systems. Our risk measures, concentration controls and the dimensions in which we aggregated risk to identify correlated exposures proved inadequate in a historically severe deterioration in financial markets. As a result, we recorded substantial losses on fixed income trading positions, particularly in 2008 and 2009. We have substantially revised and strengthened our risk management and control framework and increased the capital that we hold relative to the risks that we take. Nonetheless, we could suffer further losses in the future if, for example:

– we do not fully identify the risks in our portfolio, in particular risk concentrations and correlated risks;
– our assessment of the risks identified, or our response to negative trends, proves to be untimely, inadequate, insufficient or incorrect;
– markets move in ways that we do not expect – in terms of their speed, direction, severity or correlation – and our ability to manage risks in the resulting environment is, therefore, affected;
– third parties to whom we have credit exposure or whose securities we hold are severely affected by events and we suffer defaults and impairments beyond the level implied by our risk assessment; or
– collateral or other security provided by our counterparties proves inadequate to cover their obligations at the time of default.

We have exposures related to real estate in various countries, including a substantial Swiss mortgage portfolio. Although we believe this portfolio is prudently managed, we could nevertheless be exposed to losses if a substantial deterioration in the Swiss real estate market were to occur. We also hold legacy risk positions, primarily in Corporate Center, that, in many cases, are illiquid and may again deteriorate in value.

We also manage risk on behalf of our clients. The performance of assets we hold for our clients may be adversely affected by the same factors mentioned above. If clients suffer losses or the performance of their assets held with us is not in line with relevant benchmarks against which clients assess investment performance, we may suffer reduced fee income and a decline in assets under management, or withdrawal of mandates.

Investment positions, such as equity investments made as part of strategic initiatives and seed investments made at the inception of funds that we manage, may also be affected by market risk factors. These investments are often not liquid and generally are intended or required to be held beyond a normal trading horizon. Deteriorations in the fair value of these positions would have a negative effect on our earnings.

As UBS Group AG is a holding company, its operating results, financial condition and ability to pay dividends and other distributions and/or to pay its obligations in the future depend on funding, dividends and other distributions received directly or indirectly from its subsidiaries, which may be subject to restrictions

UBS Group AG's ability to pay dividends and other distributions and to pay its obligations in the future will depend on the level of funding, dividends and other distributions, if any, received from UBS AG and other subsidiaries. The ability of such subsidiaries to make loans or distributions, directly or indirectly, to UBS Group AG may be restricted as a result of several factors, including restrictions in financing agreements and the requirements of applicable law and regulatory, fiscal or other restrictions. In particular, UBS Group AG's direct and indirect subsidiaries, including UBS AG, UBS Switzerland AG, UBS Americas Holding LLC and UBS Europe SE, are subject to laws and regulations that restrict dividend payments, authorize regulatory bodies to block or reduce the flow of funds from those subsidiaries to UBS Group AG, or could affect their ability to repay any loans made to, or other investments in, such subsidiary by UBS Group AG or another member of the Group. For example, the US Comprehensive Capital Analysis and Review process requires that our US intermediate holding company demonstrate that it can continue to meet minimum capital standards over a hypothetical nine-quarter severely adverse economic scenario. If it fails to meet the quantitative capital requirements, or the Federal Reserve Board's qualitative assessment of the capital planning process is adverse, our US intermediate holding company would be prohibited from paying dividends or making distributions. Restrictions and regulatory actions of this kind could impede access to funds that UBS Group AG may need to meet its obligations or to pay dividends to shareholders. In addition, UBS Group AG's right to participate in a distribution of assets upon a subsidiary's liquidation or reorganization is subject to all prior claims of the subsidiary's creditors.

Our capital instruments may contractually prevent UBS Group AG from proposing the distribution of dividends to shareholders, other than in the form of shares, if we do not pay interest on these instruments.

Furthermore, UBS Group AG may guarantee some of the payment obligations of certain of the Group's subsidiaries from time to time. These guarantees may require UBS Group AG to provide substantial funds or assets to subsidiaries or their creditors or counterparties at a time when UBS Group AG is in need of liquidity to fund its own obligations.

The credit ratings of UBS Group AG or its subsidiaries used for funding purposes could be lower than the ratings of the Group's operating subsidiaries, which may adversely affect the market value of the securities and other obligations of UBS Group AG or those subsidiaries on a standalone basis.

Our reputation is critical to our success

Our reputation is critical to the success of our strategic plans, business and prospects. Reputational damage is difficult to reverse, and improvements tend to be slow and difficult to measure. Our reputation has been adversely affected by our losses during the financial crisis, investigations into our cross-border private banking services, criminal resolutions of LIBOR-related and foreign exchange matters, as well as other matters. We believe that reputational damage as a result of these events was an important factor in our loss of clients and client assets across our asset-gathering businesses. New events that cause reputational damage could have a material adverse effect on our results of operation and financial condition, as well as our ability to achieve our strategic goals and financial targets.

Liquidity and funding risk

Liquidity and funding management are critical to UBS's ongoing performance

The viability of our business depends on the availability of funding sources, and our success depends on our ability to obtain funding at times, in amounts, for tenors and at rates that enable us to efficiently support our asset base in all market conditions. Our funding sources have generally been stable, but could change in the future because of, among other things, general market disruptions or widening credit spreads, which could also influence the cost of funding. A substantial part of our liquidity and funding requirements are met using short-term unsecured funding sources, including retail and wholesale deposits and the regular issuance of money market securities. A change in the availability of short-term funding could occur quickly.

Moreover, more stringent capital and liquidity and funding requirements will likely lead to increased competition for both secured funding and deposits as a stable source of funding, and to higher funding costs. The addition of loss-absorbing debt as a component of capital requirements, the regulatory requirements to maintain minimum TLAC at UBS's holding company and at subsidiaries, as well as the power of resolution authorities to bail in TLAC and other debt obligations, and uncertainty as to how such powers will be exercised, will increase our cost of funding and could potentially increase the total amount of funding required, in the absence of other changes in our business.

Reductions in our credit ratings may adversely affect the market value of the securities and other obligations and increase our funding costs, in particular with regard to funding from wholesale unsecured sources, and could affect the availability of certain kinds of funding. In addition, as experienced in connection with Moody's downgrade of UBS AG's long-term debt rating in June 2012, rating downgrades can require us to post additional collateral or make additional cash payments under trading agreements. Our credit ratings, together with our capital strength and reputation, also contribute to maintaining client and counterparty confidence, and it is possible that rating changes could influence the performance of some of our businesses.

The requirement to maintain a liquidity coverage ratio of high-quality liquid assets to estimated stressed short-term net cash outflows, and other similar liquidity and funding requirements, oblige us to maintain high levels of overall liquidity, limit our ability to optimize interest income and expense, make certain lines of business less attractive and reduce our overall ability to generate profits. The liquidity coverage ratio and net stable funding ratio requirements are intended to ensure that we are not overly reliant on short-term funding and that we have sufficient long-term funding for illiquid assets. The relevant calculations make assumptions about the relative likelihood and amount of outflows of funding and available sources of additional funding in market-wide and firm-specific stress situations. There can be no assurance that in an actual stress situation our funding outflows would not exceed the assumed amounts.

Financial and operating performance

Management report

Changes related to Item 303 of Regulation S-K

In our Annual Report 2019 and related 20-F filing, we exclude the discussion of the financial years 2018 compared with 2017 in our Management's Discussion and Analysis section pursuant to changes related to Item 303 of Regulation S-K, as we have included such discussion already in a prior filing, which can be found under:

www.sec.gov/Archives/edgar/data/1114446/000161052019000031/ar1820f.htm

Critical accounting estimates and judgments

In preparing our financial statements in accordance with International Financial Reporting Standards (IFRS), as issued by the International Accounting Standards Board (IASB), we apply judgment and make estimates and assumptions that may involve significant uncertainty at the time they are made. We regularly reassess those estimates and assumptions, which encompass historical experience, expectations of the future and other pertinent factors, to determine their continuing relevance based on current conditions, and we update them as necessary. Changes in estimates and assumptions may have a significant effect on the financial statements. Furthermore, actual results may differ significantly from our estimates, which could result in significant losses to the Group, beyond what we anticipated or provided for.

Key areas involving a high degree of judgment and areas where estimates and assumptions are significant to the consolidated financial statements include:

– fair value measurement
– expected credit loss measurement
– assessment of the business model and certain contractual features when classifying financial instruments
– pension and other post-employment benefit plans
– income taxes
– goodwill
– provisions and contingent liabilities
– consolidation of structured entities
– determination of the functional currency and assessing the earliest date from which it is practical to perform a restatement following a change in presentation currency for the year ended 31 December 2018

We believe that the judgments, estimates and assumptions we have made are appropriate under the circumstances and that our financial statements fairly present, in all material respects, the financial position of UBS as of 31 December 2019 and the results of our operations and cash flows for 2019, including comparative information, in accordance with IFRS.

→ **Refer to "Note 1a Significant accounting policies" in the "Consolidated financial statements" section of this report for more information**

→ **Refer to the "Risk factors" section of this report for more information**

Significant accounting and financial reporting changes

Significant accounting and financial reporting changes in 2019

IFRS 16, *Leases*

We have adopted IFRS 16, *Leases*, effective 1 January 2019, fundamentally changing how we account for operating leases when acting as a lessee. Upon adoption, assets and liabilities increased by USD 3.5 billion, with a corresponding increase in risk-weighted assets (RWA) and leverage ratio denominator (LRD).

In the income statement, the adoption of the new standard has resulted in increases in *Interest expense* and *Depreciation and impairment of property, equipment and software*, which have been partly offset by a decrease in *General and administrative expenses*. The full-year effect of the application of IFRS 16 was a net decrease in profit before tax of approximately USD 60 million, reflecting reductions of approximately USD 120 million and USD 60 million in operating income and expenses, respectively.

As permitted by IFRS 16, we have elected not to restate prior-period information.

→ **Refer to "Note 1 Summary of significant accounting policies" in the "Consolidated financial statements" section of this report for more information about the adoption of IFRS 16**

Presentation of dividend income and expense from financial instruments measured at fair value through profit or loss

Effective 1 January 2019, we refined the presentation of dividend income and expense, reclassifying dividends from financial instruments measured at fair value through profit or loss from *Net interest income* to *Other net income from financial instruments measured at fair value through profit or loss* (prior to 1 January 2019: *Other net income from fair value changes on financial instruments*), in order to align the presentation of dividends with other associated fair value changes. There is no effect on *Total operating income* or *Net profit / (loss)*. The change reduces the significant volatility in *Net interest income* that previously arose.

Prior periods have been restated for this presentation change. For the financial year 2018, this resulted in a decrease of USD 976 million in *Net interest income* and a corresponding increase in *Other net income from financial instruments measured at fair value through profit or loss*.

→ **Refer to "Note 1 Summary of significant accounting policies" in the "Consolidated financial statements" section of this report for more information**

Changes in Corporate Center cost and resource allocation to business divisions

In order to further align Group and divisional performance, we have adjusted our methodology for the allocation of Corporate Center funding costs and expenses to the business divisions. At the same time, we updated our funds transfer pricing framework to better reflect the sources and usage of funding. All of these changes became effective as of 1 January 2019. Prior periods have been restated.

Together, for the full year 2018, these changes reduced the business divisions' operating results and thereby increased their adjusted cost / income ratios approximately 1–2 percentage points, while Corporate Center's 2018 operating loss before tax decreased by USD 0.7 billion.

In Corporate Center, we retain funding costs for deferred tax assets, costs relating to our legal entity transformation program and other costs not attributable to, or representative of the performance of, the business divisions.

Alongside the updates to cost allocations and to our funds transfer pricing framework, we increased the allocation of balance sheet resources from Corporate Center to the business divisions. For 2018, the restatement resulted in USD 26 billion of additional RWA and USD 93 billion of additional LRD allocated from Corporate Center to the business divisions.

The additional USD 3.5 billion RWA and LRD that resulted from the adoption of IFRS 16, *Leases*, have both been fully allocated to the business divisions.

→ **Refer to "Note 2a Segment reporting" in the "Consolidated financial statements" section of this report for more information**

Changes in equity attribution

The aforementioned changes in resource allocation from Corporate Center to the business divisions are reflected in the equity attribution to the business divisions. Furthermore, we have updated our equity attribution framework, revising the capital ratio for RWA from 11% to 12.5% to better align with Group capital levels, and incrementally allocating to business divisions USD 2 billion of attributed equity that is related to certain common equity tier 1 (CET1) deduction items previously held centrally. In aggregate, we allocated USD 7 billion of additional attributed equity to the business divisions. The remaining attributed equity retained in Corporate Center primarily relates to deferred tax assets, dividend accruals and the Non-core and Legacy Portfolio.

Prior periods have been restated. For the full year 2018, the combined effect from the changes in equity attribution and the aforementioned changes in cost and resource allocation to the business divisions led to a 3–7 percentage point reduction in their respective return on attributed equity.

→ **Refer to "Equity attribution and return on attributed equity" in the "Capital management" section of this report for more information about our equity attribution framework**

Changes in Corporate Center segment reporting

Effective 1 January 2019, and in compliance with IFRS 8, *Operating Segments*, we provide results for total Corporate Center only and do not separately report Corporate Center – Services, Group Asset and Liability Management (Group ALM) and Non-core and Legacy Portfolio. Furthermore, we have operationally combined our Group Treasury activities with Group ALM and call this combined function Group Treasury. Prior-period information has been restated.

→ **Refer to "Note 1 Summary of significant accounting policies" and "Note 2a Segment reporting" in the "Consolidated financial statements" section of this report for more information**

Amendments to IAS 39, IFRS 9 and IFRS 7 (Interest Rate Benchmark Reform)

In September 2019, the IASB issued *Interest Rate Benchmark Reform, Amendments to IFRS 9, IAS 39 and IFRS 7*, enabling hedge accounting to continue during the period of uncertainty before existing interest rate benchmarks are replaced with alternative risk-free interest rates. As permitted by the transitional provisions, we early adopted the revisions in 2019.

→ **Refer to "Note 1 Summary of significant accounting policies" in the "Consolidated financial statements" section of this report for more information**

Changes to Pillar 3 disclosure requirements

During 2019, we introduced several new tables and/or narratives in accordance with the FINMA Pillar 3 disclosure requirements (FINMA Circular 2016/1 "Disclosure – banks," as last revised on 31 October 2019), as well as amendments to existing disclosures in accordance with the Basel Committee on Banking Supervision "Technical Amendment – Pillar 3 disclosure requirements – regulatory treatment of accounting provisions" issued in August 2018.

→ **Refer to the 31 December 2019 Pillar 3 report, available under "Pillar 3 disclosures" at *www.ubs.com/investors*, for more information about the changes to Pillar 3 disclosure requirements**

Significant accounting and financial reporting changes in 2020

Adoption of hedge accounting requirements of IFRS 9, *Financial instruments*

Effective 1 January 2020, we have adopted the hedge accounting requirements of IFRS 9, *Financial instruments*, for most of our existing hedge accounting programs, including fair value hedges for interest rate risk related to debt instruments, cash flow hedges of forecast transactions and hedges of net investments in foreign operations. As permitted by IFRS 9, we continue to account for our fair value hedges of portfolio interest rate risk related to loans under IAS 39, *Financial Instruments: Recognition and Measurement.*

The adoption of these requirements will have no consequential financial effect on our financial statements. However, the adoption will allow us to designate more effective hedge accounting relationships going forward, including fair value hedges of foreign currency risk using cross-currency swaps, and to reduce income statement volatility caused by foreign currency basis spreads.

→ **Refer to "Note 1c International Financial Reporting Standards and Interpretations to be adopted in 2020 and later and other changes" in the "Consolidated financial statements" section of this report for more information**

Streamlining of business division expense reporting

Over recent years, we have been progressively aligning our support functions, such as Technology, Operations and Real Estate, with the business divisions. In order to reflect this alignment, we will streamline our reporting beginning with our first quarter 2020 report. We will no longer provide the individual operating expense lines but will disclose costs at a total operating expense level for our divisions. We will continue to disclose the full details on operating expenses at the Group level, and explain the drivers of changes in divisional operating expenses in our management's discussion and analysis. Revenues and costs related to a small residual set of activities that are not directly attributable to or representative of the performance of the business divisions will be renamed as Group items. These changes will have no impact on Business Division or Group operating income, operating expenses and profit before tax.

Group performance

Income statement

	For the year ended			% change from
USD million	31.12.19	31.12.18	31.12.17	31.12.18
Net interest income	4,501	5,048	6,070	(11)
Other net income from financial instruments measured at fair value through profit or loss	6,842	6,960	5,637	(2)
Credit loss (expense) / recovery	(78)	(118)	(131)	(34)
Fee and commission income	19,110	19,598	19,362	(2)
Fee and commission expense	(1,696)	(1,703)	(1,840)	0
Net fee and commission income	17,413	17,895	17,522	(3)
Other income	212	428	524	(51)
Total operating income	28,889	30,213	29,622	(4)
of which: net interest income and other net income from financial instruments measured at fair value through profit or loss	*11,343*	*12,008*	*11,707*	*(6)*
Personnel expenses	16,084	16,132	16,199	0
General and administrative expenses	5,288	6,797	6,949	(22)
Depreciation and impairment of property, equipment and software	1,765	1,228	1,053	44
Amortization and impairment of goodwill and intangible assets	175	65	71	169
Total operating expenses	23,312	24,222	24,272	(4)
Operating profit / (loss) before tax	5,577	5,991	5,351	(7)
Tax expense / (benefit)	1,267	1,468	4,305	(14)
Net profit / (loss)	4,310	4,522	1,046	(5)
Net profit / (loss) attributable to non-controlling interests	6	7	77	(13)
Net profit / (loss) attributable to shareholders	4,304	4,516	969	(5)
Comprehensive income				
Total comprehensive income	5,091	4,231	2,113	20
Total comprehensive income attributable to non-controlling interests	2	5	326	(69)
Total comprehensive income attributable to shareholders	5,089	4,225	1,787	20

Performance of our business divisions and Corporate Center – reported and adjusted[1]

	For the year ended 31.12.19					
USD million	Global Wealth Management	Personal & Corporate Banking	Asset Manage-ment	Investment Bank	Corporate Center[2]	UBS
Operating income as reported	16,353	3,715	1,938	7,269	(385)	28,889
of which: net foreign currency translations losses[3]					*(35)*	*(35)*
of which: net losses from properties held for sale					*(29)*	*(29)*
Operating income (adjusted)	16,353	3,715	1,938	7,269	(321)	28,953
Operating expenses as reported	12,955	2,274	1,406	6,485	192	23,312
of which: personnel-related restructuring expenses[4]	*0*	*0*	*6*	*84*	*113*	*203*
of which: non-personnel-related restructuring expenses[4]	*0*	*0*	*7*	*7*	*68*	*81*
of which: restructuring expenses allocated from Corporate Center[4]	*69*	*17*	*20*	*77*	*(183)*	*0*
of which: impairment of goodwill				*110*		*110*
Operating expenses (adjusted)	12,887	2,257	1,373	6,208	194	22,918
of which: net expenses for litigation, regulatory and similar matters[5]	*135*	*0*	*0*	*53*	*(23)*	*165*
Operating profit / (loss) before tax as reported	3,397	1,441	532	784	(577)	5,577
Operating profit / (loss) before tax (adjusted)	3,466	1,458	565	1,061	(515)	6,035

	For the year ended 31.12.18					
USD million	Global Wealth Management	Personal & Corporate Banking	Asset Manage-ment	Investment Bank	Corporate Center[2]	UBS
Operating income as reported	16,785	4,161	1,852	8,041	(626)	30,213
of which: gains related to investments in associates	*101*	*359*				*460*
of which: gains on sale of real estate					*31*	*31*
of which: gains on sale of subsidiaries and businesses					*25*	*25*
of which: remeasurement loss related to UBS Securities China					*(270)*	*(270)*
Operating income (adjusted)	16,684	3,802	1,852	8,041	(413)	29,966
Operating expenses as reported	13,531	2,365	1,426	6,554	346	24,222
of which: personnel-related restructuring expenses[4]	*34*	*4*	*23*	*16*	*208*	*286*
of which: non-personnel-related restructuring expenses[4]	*16*	*0*	*10*	*11*	*238*	*275*
of which: restructuring expenses allocated from Corporate Center[4]	*209*	*43*	*33*	*166*	*(450)*	*0*
of which: gain related to changes to the Swiss pension plan[6]	*(66)*	*(38)*	*(10)*	*(5)*	*(122)*	*(241)*
Operating expenses (adjusted)	13,338	2,355	1,370	6,367	472	23,903
of which: net expenses for litigation, regulatory and similar matters[5]	*619*	*41*	*0*	*(64)*	*62*	*657*
Operating profit / (loss) before tax as reported	3,254	1,796	426	1,486	(971)	5,991
Operating profit / (loss) before tax (adjusted)	3,346	1,447	482	1,674	(885)	6,063

Performance of our business divisions and Corporate Center – reported and adjusted (continued)[1]

	For the year ended 31.12.17					
USD million	Global Wealth Management	Personal & Corporate Banking	Asset Manage-ment	Investment Bank	Corporate Center[2]	UBS
Operating income as reported	16,136	3,839	2,077	7,650	(80)	29,622
of which: gains on sale of subsidiaries and businesses			*153*			*153*
of which: gains on sale of financial assets at fair value through OCI[7]				*137*		*137*
of which: net foreign currency translation losses					*(16)*	*(16)*
Operating income (adjusted)	16,136	3,839	1,924	7,513	(63)	29,349
Operating expenses as reported	12,917	2,364	1,514	6,563	913	24,272
of which: personnel-related restructuring expenses[4]	*39*	*7*	*17*	*39*	*443*	*545*
of which: non-personnel-related restructuring expenses[4]	*75*	*0*	*22*	*18*	*532*	*647*
of which: restructuring expenses allocated from Corporate Center[4]	*474*	*98*	*63*	*310*	*(945)*	*0*
of which: expenses from modification of terms for certain DCCP awards[8]				*26*		*26*
Operating expenses (adjusted)	12,329	2,259	1,412	6,171	883	23,054
of which: net expenses for litigation, regulatory and similar matters[5]	*174*	*2*	*(4)*	*(42)*	*304*	*434*
Operating profit / (loss) before tax as reported	3,219	1,475	563	1,087	(993)	5,351
Operating profit / (loss) before tax (adjusted)	3,807	1,580	512	1,342	(946)	6,295

1 Prior-year comparative figures in this table have been restated for the changes in Corporate Center cost and resource allocation to the business divisions and the changes in the equity attribution framework effective 1 January 2019. Refer to "Note 1 Summary of significant accounting policies" in the "Consolidated financial statements" section of this report for more information about the changes to the Corporate Center cost and resource allocation to business divisions and to the "Significant accounting and financial reporting changes" section of this report for more information about the changes in the equity attribution framework. Comparatives may additionally differ as a result of adjustments following organizational changes, restatements due to the retrospective adoption of new accounting standards or changes in accounting policies, and events after the reporting period. 2 Corporate Center operating expenses presented in this table are after service allocations to business divisions. 3 Related to the disposal or closure of foreign operations. 4 Reflects restructuring expenses related to legacy cost programs as well as expenses for new restructuring initiatives. 5 Reflects the net increase in / (release of) provisions for litigation, regulatory and similar matters recognized in the income statement. Refer to "Note 21 Provisions and contingent liabilities" in the "Consolidated financial statements" section of this report for more information. Also includes recoveries from third parties of USD 11 million, USD 29 million and USD 55 million for the years ended 31 December 2019, 31 December 2018 and 31 December 2017, respectively. 6 Changes to the pension fund of UBS in Switzerland in 2018 resulted in a reduction in the pension obligation recognized by UBS. As a consequence, a pre-tax gain of USD 241 million was recognized in the income statement in 2018, with no overall effect on total equity. Refer to "Note 29 Pension and other post-employment benefit plans" in the "Consolidated financial statements" section of this report for more information. 7 Includes gains on the sale of our investment in the London Clearing House and on the sale of our investment in IHS Markit in the Investment Bank in 2017. 8 Relates to the removal of the service period requirement for DCCP awards granted for the performance years 2012 and 2013.

2019 compared with 2018

Results

We recorded net profit attributable to shareholders of USD 4,304 million in 2019, which included a net tax expense of USD 1,267 million. In 2018, net profit attributable to shareholders was USD 4,516 million, which included a net tax expense of USD 1,468 million.

Profit before tax decreased by USD 414 million, or 7%, to USD 5,577 million, reflecting lower operating income, partly offset by a decrease in operating expenses. Operating income decreased by USD 1,324 million, or 4%, to USD 28,889 million, reflecting a USD 665 million decrease in net interest income and other net income from financial instruments measured at fair value through profit or loss, a USD 482 million decrease in net fee and commission income and USD 216 million lower other income. Operating expenses decreased by USD 910 million, or 4%, to USD 23,312 million. This was mainly driven by USD 1,509 million lower general and administrative expenses, largely reflecting USD 533 million lower occupancy expenses and a decrease of USD 492 million in expenses related to litigation, regulatory and similar matters. This was partly offset by USD 537 million higher depreciation and impairment of property, equipment and software, as well as USD 110 million higher amortization and impairment of goodwill and intangible assets.

In addition to reporting our results in accordance with International Financial Reporting Standards (IFRS), we report adjusted results, which exclude items that management believes are not representative of the underlying performance of our businesses. Such adjusted results are non-GAAP financial measures as defined by US Securities and Exchange Commission (SEC) regulations. These adjustments include restructuring expenses related to our CHF 2.1 billion cost reduction program completed at the end of 2017 (referred to as our "legacy cost programs" in this report), as well as expenses relating to new restructuring initiatives. For the full year 2019, we incurred a runoff of restructuring expenses associated with our legacy cost programs of USD 205 million, which are now expected to be nil for 2020 and future years. In addition, in connection with the planned structural changes in the Investment Bank, we incurred USD 79 million of restructuring expenses in the fourth quarter of 2019. We expect to incur restructuring expenses of approximately USD 200 million in 2020 related to additional cost actions across the Group, with the majority of this expense being incurred in the first half of the year.

In January 2020, we updated and simplified our performance target framework, with our updated performance targets based on reported results. From the first quarter of 2020, we will no longer disclose adjusted results; however, we will continue to provide disclosure of restructuring and litigation expenses as well as other material profit or loss items that management believes are not representative of underlying business performance.

For the purpose of determining adjusted results for 2019, we excluded net restructuring expenses of USD 284 million, a USD 110 million loss related to an impairment of goodwill, net foreign currency translation losses of USD 35 million and a loss of USD 29 million related to the remeasurement of properties that were reclassified as properties held for sale. For 2018, we excluded a gain of USD 460 million related to investments in associates, gains of USD 31 million on sale of real estate, gains of USD 25 million on sale of subsidiaries and businesses, a remeasurement loss of USD 270 million related to the increase of our shareholding in UBS Securities China, a gain of USD 241 million related to changes to the Swiss pension plan, and net restructuring expenses of USD 561 million.

On this adjusted basis, profit before tax decreased slightly to USD 6,035 million.

Net interest income and other net income from financial instruments measured at fair value through profit or loss

	For the year ended			% change from
USD million	31.12.19	31.12.18	31.12.17	31.12.18
Net interest income from financial instruments measured at amortized cost and fair value through other comprehensive income	3,490	3,710	5,018	(6)
Net interest income from financial instruments measured at fair value through profit or loss	1,011	1,338	1,052	(24)
Other net income from financial instruments measured at fair value through profit or loss	6,842	6,960	5,637	(2)
Total	11,343	12,008	11,707	(6)
Global Wealth Management	4,913	5,049	4,941	(3)
of which: net interest income	*3,947*	*4,101*	*3,880*	*(4)*
of which: transaction-based income from foreign exchange and other intermediary activity[1]	*966*	*948*	*1,062*	*2*
Personal & Corporate Banking	2,436	2,451	2,420	(1)
of which: net interest income	*1,992*	*2,049*	*2,044*	*(3)*
of which: transaction-based income from foreign exchange and other intermediary activity[1]	*443*	*402*	*376*	*10*
Asset Management	(13)	(35)	(34)	(63)
Investment Bank[2]	4,189	4,756	4,272	(12)
Corporate Client Solutions	*716*	*1,051*	*1,076*	*(32)*
Investor Client Services	*3,473*	*3,705*	*3,196*	*(6)*
Corporate Center	(182)	(214)	107	(15)

1 Mainly includes spread-related income in connection with client-driven transactions, foreign currency translation effects and income and expenses from precious metals, which are included in the income statement line Other net income from financial instruments measured at fair value through profit or loss. The amounts reported on this line are one component of Transaction-based income in the management discussion and analysis of Global Wealth Management and Personal & Corporate Banking in the "Global Wealth Management" and "Personal & Corporate Banking" sections of this report. 2 Investment Bank information is provided at the business line level rather than by financial statement reporting line in order to reflect the underlying business activities, which is consistent with the structure of the management discussion and analysis in the "Investment Bank" section of this report.

Operating income

Total operating income decreased by USD 1,324 million, or 4%, to USD 28,889 million. On an adjusted basis, total operating income decreased by USD 1,013 million, or 3%, to USD 28,953 million.

Net interest income and other net income from financial instruments measured at fair value through profit or loss

Total combined net interest income and other net income from financial instruments measured at fair value through profit or loss decreased by USD 665 million to USD 11,343 million. This was mainly driven by lower net income in the Investment Bank and Global Wealth Management.

Global Wealth Management

In Global Wealth Management, net interest income decreased by USD 154 million to USD 3,947 million, mainly reflecting lower income from lending and deposits, due to margin compression and moves into lower-margin products. These effects were partly offset by higher investment-of-equity income.

Transaction-based income from foreign exchange and other intermediary activity increased by USD 18 million to USD 966 million, mainly due to higher revenues from foreign exchange transactions, driven by higher levels of client activity.

Personal & Corporate Banking

In Personal & Corporate Banking, net interest income decreased by USD 57 million to USD 1,992 million, mainly reflecting higher funding costs for long-term debt that contributes to total loss-absorbing capacity and lower banking book interest income. This was partly offset by higher deposit revenues.

Transaction-based income from foreign exchange and other intermediary activity increased by USD 41 million to USD 443 million, mainly due to higher net income from foreign exchange transactions.

Investment Bank

In the Investment Bank, net interest income and other net income from financial instruments measured at fair value through profit or loss decreased by USD 567 million to USD 4,189 million. This was driven by a USD 335 million decrease in Corporate Client Solutions, mainly reflecting a decrease in leveraged finance revenues and as 2018 included higher gains from transactions across our Equity Capital Markets and Risk Management portfolio. In addition, USD 198 million lower income in our Equities business was driven by lower prime brokerage client balances and margin compression, as well as lower client activity levels across all Equities product lines.

Corporate Center

In Corporate Center, net interest income and other net income from financial instruments measured at fair value through profit or loss increased by USD 32 million. This reflected USD 421 million higher net treasury income, driven by income from hedge accounting ineffectiveness, revenues from accounting asymmetries, as well as higher net interest income. This was partly offset by USD 252 million lower income in Retained Services, driven by USD 122 million of additional interest expense related to lease liabilities recognized as a result of the application of IFRS 16, *Leases*, which was adopted in the first quarter of 2019, and approximately USD 130 million higher asset funding costs, mainly driven by increased interest rates. In addition, income in Non-Core and Legacy Portfolio decreased by USD 137 million, mainly as 2018 included higher valuation gains on auction rate securities.

→ **Refer to "Note 3 Net interest income and other net income from financial instruments measured at fair value through profit or loss" in the "Consolidated financial statements" section of this report for more information**

Credit loss expense / recovery

Total net credit loss expenses were USD 78 million in 2019, compared with USD 118 million, reflecting net credit loss expenses of USD 100 million related to credit-impaired (stage 3) positions, mainly in Personal & Corporate Banking and to a lesser extent in the Investment Bank and Global Wealth Management. This was partly offset by USD 22 million of net releases in expected credit loss expense allowances from stage 1 and 2 positions.

→ **Refer to "Note 1 Summary of significant accounting policies" in the "Consolidated financial statements" section of this report for more information about IFRS 9**

→ **Refer to "Note 10 Financial assets at amortized cost and other positions in scope of expected credit loss measurement" and "Note 23 Expected credit loss measurement" in the "Consolidated financial statements" section of this report for more information about credit loss expense / recovery**

→ **Refer to the "Risk factors" section of this report for more information**

Credit loss (expense) / recovery

	For the year ended			% change from
USD million	31.12.19	31.12.18	31.12.17	31.12.18
Global Wealth Management	(20)	(15)	(8)	32
Personal & Corporate Banking	(21)	(56)	(20)	(63)
Investment Bank	(30)	(38)	(92)	(22)
Corporate Center	(7)	(8)	(11)	(12)
Total	(78)	(118)	(131)	(34)

Net fee and commission income

Net fee and commission income was USD 17,413 million compared with USD 17,895 million.

Net brokerage fees decreased by USD 267 million, mainly in the Investment Bank and in Global Wealth Management, largely due to lower levels of client activity across the first half of 2019.

Investment fund fees and fees for portfolio management and related services decreased by USD 196 million, driven by Global Wealth Management, largely reflecting lower average invested assets in the first quarter of 2019, as well as margin compression and shifts into lower-margin products. These effects were partly offset by an increase of USD 82 million in Asset Management, reflecting the effect of higher average invested assets, as well as an increase in performance fees, reflecting strong investment performance in a constructive market environment.

Underwriting fees decreased by USD 70 million, mainly in our Corporate Client Solutions business in the Investment Bank, driven by lower revenues from public offerings.

→ **Refer to "Note 4 Net fee and commission income" in the "Consolidated financial statements" section of this report for more information**

Other income

Other income was USD 212 million compared with USD 428 million on a reported basis. 2019 included net foreign currency translation losses of USD 35 million and a loss of USD 29 million related to the remeasurement of properties that were reclassified as properties held for sale. The previous year included a valuation gain of USD 460 million on our equity ownership in SIX related to the sale of SIX Payment Services to Worldline, a remeasurement loss of USD 270 million related to the increase of our shareholding in UBS Securities China, gains on sale of real estate of USD 31 million and gains on sale of subsidiaries of USD 25 million. Excluding these items, adjusted other income increased by USD 94 million, mainly driven by gains resulting from the settlement of a litigation claim, gains related to legacy securities positions, and income related to a claim on a defaulted counterparty position.

→ **Refer to "Note 5 Other income" in the "Consolidated financial statements" section of this report for more information**

→ **Refer to "Note 32 Changes in organization and acquisitions and disposals of subsidiaries and businesses" in the "Consolidated financial statements" section of this report for more information about the increase of stake in and consolidation of UBS Securities China**

Operating expenses

Total operating expenses decreased by USD 910 million, or 4%, to USD 23,312 million. On an adjusted basis, total operating expenses decreased by USD 985 million, or 4%, to USD 22,918 million.

Personnel expenses

Personnel expenses decreased by USD 48 million to USD 16,084 million on a reported basis, primarily reflecting lower variable compensation, lower expenses for contractors, and lower other personnel expenses. This was largely offset by higher expenses for pension and other post-employment benefit plans, as 2018 included a gain of USD 241 million related to changes to the Swiss pension plan, and higher salary costs. On an adjusted basis, personnel expenses decreased by USD 206 million to USD 15,881 million, primarily driven by the aforementioned decrease in variable compensation.

Expenses for salaries increased by USD 70 million to USD 6,518 million, primarily driven by continued insourcing of certain activities from third-party vendors to our Business Solutions Centers, as well as increased staffing to address regulatory requirements. These increases were partly offset by lower salary expenses in Global Wealth Management. On an adjusted basis, expenses for salaries increased by USD 170 million to USD 6,443 million, mainly reflecting the aforementioned insourcing effects.

Expenses for total variable compensation decreased by USD 237 million, and adjusted expenses for total variable compensation decreased by USD 261 million, mainly reflecting a decrease in expenses for current year awards.

Financial advisor compensation was broadly stable at USD 4,043 million.

Other personnel expenses decreased by USD 99 million and adjusted other personnel expenses decreased by USD 103 million, primarily due to lower medical insurance and recruitment costs.

→ **Refer to the "Compensation" section of this report for more information**

→ **Refer to "Note 6 Personnel expenses," "Note 29 Pension and other post-employment benefit plans" and "Note 30 Employee benefits: variable compensation" in the "Consolidated financial statements" section of this report for more information**

General and administrative expenses

General and administrative expenses decreased by USD 1,509 million to USD 5,288 million. This was driven by USD 492 million lower expenses related to litigation, regulatory and similar matters, as the prior year included an increase in provisions that largely related to our cross-border wealth management businesses, as well as USD 269 million lower expenses related to the outsourcing of IT and other services and USD 133 million lower professional fees.

Operating expenses

	For the year ended			% change from
USD million	31.12.19	31.12.18	31.12.17	31.12.18
Operating expenses as reported				
Personnel expenses	16,084	16,132	16,199	0
General and administrative expenses	5,288	6,797	6,949	(22)
Depreciation and impairment of property, equipment and software	1,765	1,228	1,053	44
Amortization and impairment of goodwill and intangible assets	175	65	71	169
Total operating expenses as reported	23,312	24,222	24,272	(4)
Adjusting items				
Personnel expenses	203	45	570	
of which: restructuring expenses[1]	*203*	*286*	*545*	
of which: gain related to changes to the Swiss pension plan[2]		*(241)*		
of which: expenses from modification of terms for certain DCCP awards[3]			*26*	
General and administrative expenses[1]	72	225	640	
Depreciation and impairment of property, equipment and software[1]	10	50	7	
Amortization and impairment of goodwill and intangible assets	110	0	0	
of which: impairment of goodwill	*110*	*0*	*0*	
Total adjusting items	394	319	1,217	
Operating expenses (adjusted)				
Personnel expenses	15,881	16,087	15,628	(1)
of which: salaries	*6,443*	*6,273*	*5,801*	*3*
of which: total variable compensation	*2,906*	*3,167*	*3,242*	*(8)*
of which: relating to current year[4]	*2,288*	*2,576*	*2,538*	*(11)*
of which: relating to prior years[5]	*618*	*592*	*704*	*4*
of which: financial advisor compensation[6]	*4,043*	*4,054*	*4,064*	*0*
of which: other personnel expenses[7]	*2,490*	*2,593*	*2,521*	*(4)*
General and administrative expenses	5,216	6,572	6,309	(21)
of which: net expenses for litigation, regulatory and similar matters	*165*	*657*	*434*	*(75)*
of which: other general and administrative expenses	*5,051*	*5,916*	*5,875*	*(15)*
Depreciation and impairment of property, equipment and software	1,755	1,178	1,046	49
Amortization and impairment of goodwill and intangible assets	65	65	71	0
Total operating expenses (adjusted)	22,918	23,903	23,054	(4)

1 Reflects restructuring expenses related to legacy cost programs as well as expenses for new restructuring initiatives. 2 Refer to "Note 29 Pension and other post-employment benefit plans" in the "Consolidated financial statements" section of this report for more information. 3 Relates to the removal of the service period requirement for DCCP awards granted for the performance years 2012 and 2013. 4 Includes expenses relating to performance awards and other variable compensation for the respective performance year. 5 Consists of amortization of prior years' awards relating to performance awards and other variable compensation. 6 Financial advisor compensation consists of formulaic compensation based directly on compensable revenues generated by financial advisors and supplemental compensation calculated on the basis of financial advisor productivity, firm tenure, new assets and other variables. It also includes expenses related to compensation commitments with financial advisors entered into at the time of recruitment that are subject to vesting requirements. 7 Consists of expenses related to contractors, social security, pension and other post-employment benefit plans and other personnel expenses. Refer to "Note 6 Personnel expenses" in the "Consolidated financial statements" section of this report for more information.

Occupancy expenses decreased by USD 533 million, primarily following the adoption of IFRS 16, *Leases*, as of 1 January 2019. This decrease was more than offset by an increase of USD 484 million in depreciation expenses for leased properties and an increase of USD 122 million in interest expense relating to lease liabilities, both also as a direct result of the adoption of IFRS 16. The full year effect of the application of IFRS 16 in 2019 was a net decrease in profit before tax of approximately USD 60 million, reflecting reductions of approximately USD 120 million and USD 60 million in operating income and expenses, respectively.

Net expenses for the UK and German bank levies were USD 41 million in 2019 and included a USD 31 million credit related to prior years. In 2018, net expenses for the UK and German bank levies were USD 58 million and included a USD 45 million credit related to prior years.

On an adjusted basis, general and administrative expenses decreased by USD 1,356 million to USD 5,216 million, largely due to the aforementioned decreases in expenses related to litigation, regulatory and similar matters, costs for outsourcing of IT and other services and professional fees.

We believe that the industry continues to operate in an environment in which expenses associated with litigation, regulatory and similar matters will remain elevated for the foreseeable future and we continue to be exposed to a number of significant claims and regulatory matters. The outcome of many of these matters, the timing of a resolution, and the potential effects of resolutions on our future business, financial results or financial condition are extremely difficult to predict.

→ **Refer to "Note 7 General and administrative expenses" and "Note 21 Provisions and contingent liabilities" in the "Consolidated financial statements" section of this report for more information**

Depreciation, amortization and impairment

Depreciation and impairment of property, equipment and software increased by USD 537 million to USD 1,765 million on a reported basis, and by USD 577 million to USD 1,755 million on an adjusted basis, mainly driven by the aforementioned USD 484 million higher depreciation expenses resulting from the application of IFRS 16.

Amortization and impairment of goodwill and intangible assets increased by USD 110 million to USD 175 million on a reported basis, as a result of a USD 110 million impairment of goodwill in the Investment Bank in the fourth quarter of 2019. Excluding this item, these expenses were broadly unchanged.

→ **Refer to "Note 15 Property, equipment and software" and "Note 16 Goodwill and intangible assets" in the "Consolidated financial statements" section of this report for more information**

Tax

We recognized an income tax expense of USD 1,267 million in 2019, representing an effective tax rate of 22.7%, compared with USD 1,468 million for 2018.

This included net Swiss tax expenses of USD 630 million and net non-Swiss tax expenses of USD 637 million.

The Swiss tax expenses included current tax expenses of USD 365 million related to taxable profits earned by Swiss subsidiaries. In addition, they included deferred tax expenses of USD 265 million, which primarily reflect the amortization of deferred tax assets (DTAs) previously recognized in relation to deductible temporary differences.

The non-Swiss tax expenses included current tax expenses of USD 426 million related to taxable profits earned by non-Swiss subsidiaries and branches. In addition, they included deferred tax expenses of USD 211 million. These included expenses of USD 471 million that primarily reflected the amortization of DTAs previously recognized in relation to tax losses carried forward and deductible temporary differences, including the amortization of US tax loss DTAs at the level of UBS Americas Inc. These were partly offset by a benefit of USD 260 million in respect of additional DTA recognition that resulted from the contribution of real estate assets by UBS AG to UBS Americas Inc. in the year. The additional DTA recognition related to the elections that were made in the fourth quarter of 2018 to capitalize certain historic real estate costs.

For 2020, we expect a full-year tax rate of approximately 25%, excluding any potential effects from the reassessment of deferred tax assets.

→ **Refer to "Note 8 Income taxes" in the "Consolidated financial statements" section of this report for more information**
→ **Refer to the "Risk factors" section of this report for more information**

Total comprehensive income attributable to shareholders

In 2019, total comprehensive income attributable to shareholders was USD 5,089 million, reflecting net profit of USD 4,304 million and other comprehensive income (OCI), net of tax, of USD 785 million.

OCI related to cash flow hedges was positive USD 1,143 million, mainly reflecting an increase in net unrealized gains on US dollar hedging derivatives resulting from decreases in the relevant long-term US dollar interest rates. In 2018, OCI related to cash flow hedges was negative USD 269 million.

OCI associated with financial assets measured at fair value through OCI was positive USD 117 million, compared with negative USD 45 million, primarily reflecting net unrealized gains following decreases in the relevant US dollar long-term interest rates in 2019.

Foreign currency translation OCI was positive USD 104 million in 2019. This was mainly due to the strengthening of the Swiss franc and the pound sterling against the US dollar as well as the reclassification of net losses totaling USD 38 million to the income statement. These effects were partly offset by the weakening of the euro. In 2018, OCI related to foreign currency translation was negative USD 541 million.

OCI related to own credit on financial liabilities designated at fair value was negative USD 392 million, compared with positive USD 509 million, primarily due to tightening credit spreads in 2019.

Defined benefit plan OCI, net of tax, was negative USD 186 million compared with positive USD 56 million. Total pre-tax OCI related to UK defined benefit plans was negative USD 78 million, reflecting OCI losses of USD 361 million from the remeasurement of the defined benefit obligation (DBO), mainly driven by a loss of USD 552 million due to a decrease in the applicable discount rate, partly offset by a gain of USD 132 million due to a decrease in the expected rate of pension increase. This was partly offset by an OCI gain of USD 284 million due to a positive return on plan assets.

Total pre-tax OCI related to the Swiss defined benefit plan was negative USD 22 million. This reflected losses of USD 1,728 million from the DBO remeasurement and of USD 353 million from an increase in the effect of the IFRS asset ceiling, almost entirely offset by a gain of USD 2,059 million due to a positive return on plan assets. The DBO remeasurement loss of USD 1,728 million was driven by a loss of USD 1,887 million due to a decrease in the applicable discount rate and an experience loss of USD 284 million, reflecting the effects of differences between the previous actuarial assumptions and what actually occurred. These losses were partly offset by gains of USD 243 million resulting from a decrease in the expected rate of interest credit on retirement savings and of USD 199 million due to other changes in actuarial assumptions.

→ **Refer to "Statement of comprehensive income" in the "Consolidated financial statements" section of this report for more information**
→ **Refer to "Note 29 Pension and other post-employment benefit plans" in the "Consolidated financial statements" section of this report for more information about defined benefit plans including a description of an enhancement to the asset ceiling calculation methodology effective in the first quarter of 2020**

Sensitivity to interest rate movements

As of 31 December 2019, we estimate that a parallel shift in yield curves by +100 basis points could lead to a combined increase in annual net interest income of approximately USD 0.6 billion in Global Wealth Management and Personal & Corporate Banking. A parallel shift in yield curves by minus 100 basis points could lead to a combined reduction in annual net interest income of approximately USD 0.6 billion.

These estimates are based on a hypothetical scenario of an immediate change in interest rates, equal across all currencies and relative to implied forward rates applied to our banking book. These estimates further assume no change to balance sheet size and structure, constant foreign exchange rates and no specific management action.

Key figures

Below we provide an overview of selected key figures of the Group. For further information about key figures related to capital management, refer to the "Capital management" section of this report.

Adjusted cost / income ratio

The adjusted cost / income ratio was 78.9%, compared with 79.5%, reflecting a reduction in adjusted operating expenses, offset by a decrease in adjusted operating income.

Common equity tier 1 capital

Common equity tier 1 (CET1) capital increased by USD 1.5 billion to USD 35.6 billion, mainly driven by operating profit before tax of USD 5.6 billion, partly offset by accruals for capital returns to shareholders of USD 2.6 billion, a USD 0.8 billion effect from our share repurchase program and current tax expenses of USD 0.8 billion.

Return on CET1 capital

Our return on CET1 capital (RoCET1) was 12.4%, compared with 13.1%, driven by a USD 0.2 billion decrease in net profit attributable to shareholders and a USD 0.4 billion increase in the average CET1 capital.

Risk-weighted assets

Risk-weighted assets (RWA) decreased by USD 4.5 billion to USD 259.2 billion, reflecting decreases from asset size and other movements of USD 8.0 billion and regulatory add-ons of USD 0.7 billion, partly offset by methodology and policy change of USD 2.0 billion, model updates of USD 1.2 billion and currency effects of USD 0.9 billion.

Common equity tier 1 capital ratio

Our CET1 capital ratio increased 0.8 percentage points to 13.7%, reflecting the USD 1.5 billion increase in CET1 capital and a USD 4.5 billion decrease in RWA.

Leverage ratio denominator

The leverage ratio denominator (LRD) increased by USD 7 billion to USD 911 billion. The increase was driven by currency effects of USD 5 billion and policy changes of USD 4 billion, partly offset by a decrease in asset size and other movements of USD 2 billion.

Common equity tier 1 leverage ratio

Our CET1 leverage ratio increased from 3.77% to 3.90% as of 31 December 2019, reflecting the aforementioned increase in CET1 capital, partly offset by a USD 7 billion increase in the LRD.

Going concern leverage ratio

Our going concern leverage ratio increased from 5.1% to 5.7%, reflecting a USD 5.6 billion increase in our going concern capital, partly offset by the aforementioned increase in the LRD.

Personnel

We employed 68,601 personnel (full-time equivalents) as of 31 December 2019. The net increase of 1,713 compared with 31 December 2018 was largely driven by a 2,583 increase in Corporate Center, mainly as a result of the ongoing insourcing of certain activities from third-party vendors to our Business Solutions Centers, resulting in a decrease of approximately 2,200 outsourced staff. This was partly offset by a 944 decrease in Global Wealth Management, reflecting the effect of cost management initiatives and a review of advisor portfolios.

Net new money and invested assets

Management's discussion and analysis on net new money and invested assets is provided in the "Global Wealth Management" and "Asset Management" sections of this report.

Seasonal characteristics

Our revenues may show seasonal patterns, notably in the Investment Bank and Global Wealth Management. These business divisions typically show the highest client activity levels in the first quarter, with lower levels throughout the rest of the year, especially during the summer months and end-of-year holiday season.

Net new money can be affected by annual tax payments, which are concentrated in the second quarter in the US.

Return on equity

	As of or for the year ended		
USD million, except where indicated	31.12.19	31.12.18	31.12.17
Net profit			
Net profit / (loss) attributable to shareholders	4,304	4,516	969
Equity			
Equity attributable to shareholders	54,533	52,928	52,495
Less: goodwill and intangible assets	6,469	6,647	6,563
Tangible equity attributable to shareholders	48,064	46,281	45,932
Less: other CET1 deductions	12,482	12,162	12,416
Common equity tier 1 capital	35,582	34,119	33,516
Return on equity			
Return on equity (%)	7.9	8.6	1.8
Return on tangible equity (%)	9.0	9.8	2.0
Return on common equity tier 1 capital (%)	12.4	13.1	3.0

Net new money[1]

	For the year ended		
USD billion	31.12.19	31.12.18	31.12.17
Global Wealth Management	31.6	24.7	44.8
Asset Management[2]	17.8	32.2	59.5
of which: excluding money market flows	*12.6*	*24.7*	*48.3*
of which: money market flows	*5.2*	*7.5*	*11.2*

1 Net new money excludes interest and dividend income. 2 Effective 1 January 2019, certain assets have been reclassified between asset classes to better reflect their underlying nature, with prior-period information restated. The adjustments have no effect on total net new money.

Invested assets

	As of			% change from
USD billion	31.12.19	31.12.18	31.12.17	31.12.18
Global Wealth Management	2,635	2,260	2,403	17
Asset Management[1]	903	781	796	16
of which: excluding money market funds	*801*	*686*	*708*	*17*
of which: money market funds	*102*	*95*	*88*	*6*

1 Effective 1 January 2019, certain assets have been reclassified between asset classes to better reflect their underlying nature, with prior-period information restated. The adjustments have no effect on total invested assets.

Global Wealth Management

Global Wealth Management[1]

	As of or for the year ended		% change from
USD million, except where indicated	31.12.19	31.12.18	31.12.18
Results			
Net interest income	3,947	4,101	(4)
Recurring net fee income[2]	9,258	9,577	(3)
Transaction-based income[3]	3,059	2,971	3
Other income	110	151	(27)
Income	16,373	16,800	(3)
Credit loss (expense) / recovery	(20)	(15)	32
Total operating income	16,353	16,785	(3)
Personnel expenses	7,621	7,683	(1)
Salaries and other personnel costs	3,578	3,628	(1)
Financial advisor variable compensation[4,5]	3,501	3,470	1
Compensation commitments with recruited financial advisors[4,6]	542	584	(7)
General and administrative expenses	1,217	1,724	(29)
Services (to) / from Corporate Center and other business divisions	4,056	4,070	0
of which: services from Corporate Center	*3,922*	*3,936*	*0*
Depreciation and impairment of property, equipment and software	5	4	22
Amortization and impairment of goodwill and intangible assets	56	50	13
Total operating expenses	12,955	13,531	(4)
Business division operating profit / (loss) before tax	3,397	3,254	4
Adjusted results			
Total operating income as reported	16,353	16,785	(3)
of which: gain related to investments in associates		*101*	
Total operating income (adjusted)	16,353	16,684	(2)
Total operating expenses as reported	12,955	13,531	(4)
of which: personnel-related restructuring expenses[7]	*0*	*34*	
of which: non-personnel-related restructuring expenses[7]	*0*	*16*	
of which: restructuring expenses allocated from Corporate Center[7,8]	*69*	*209*	
of which: gain related to changes to the Swiss pension plan		*(66)*	
Total operating expenses (adjusted)	12,887	13,338	(3)
Business division operating profit / (loss) before tax as reported	3,397	3,254	4
Business division operating profit / (loss) before tax (adjusted)	3,466	3,346	4
Performance measures			
Pre-tax profit growth (%)	4.4	1.1	
Cost / income ratio (%)	79.1	80.5	
Net new money growth (%)	1.4	1.0	
Adjusted performance measures			
Pre-tax profit growth (%)	3.6	(12.1)	
Cost / income ratio (%)	78.7	79.9	

Global Wealth Management (continued)[1]

	As of or for the year ended		% change from
USD million, except where indicated	31.12.19	31.12.18	31.12.18
Additional information			
Recurring income[9]	13,205	13,678	(3)
Recurring income as a percentage of income (%)	80.6	81.4	
Average attributed equity (USD billion)[10]	16.6	16.3	2
Return on attributed equity (%)[10]	20.5	20.0	
Risk-weighted assets (USD billion)[10]	78.1	74.3	5
Leverage ratio denominator (USD billion)[10]	312.7	315.8	(1)
Goodwill and intangible assets (USD billion)	5.1	5.2	(1)
Net new money (USD billion)	31.6	24.7	
Invested assets (USD billion)	2,635	2,260	17
Net margin on invested assets (bps)[11]	14	14	1
Gross margin on invested assets (bps)	66	70	(5)
Client assets (USD billion)	2,909	2,519	15
Loans, gross (USD billion)[12]	179.3	174.7	3
Customer deposits (USD billion)[12,13]	296.1	278.1	6
Recruitment loans to financial advisors[4]	2,053	2,296	(11)
Other loans to financial advisors[4]	824	994	(17)
Personnel (full-time equivalents)[14]	22,674	23,618	(4)
Advisors (full-time equivalents)	10,077	10,677	(6)

1 Prior-year comparative figures in this table have been restated for the changes in Corporate Center cost and resource allocation to the business divisions and the changes in the equity attribution framework effective 1 January 2019. Refer to "Note 1 Basis of accounting" in the "Consolidated financial statements" section of our first quarter 2019 report for more information about the changes to the Corporate Center cost and resource allocation to business divisions and to the "Recent developments" section of our first quarter 2019 report for more information about the changes in the equity attribution framework. Comparatives may additionally differ as a result of adjustments following organizational changes, restatements due to the retrospective adoption of new accounting standards or changes in accounting policies, and events after the reporting period. 2 Recurring net fee income consists of fees for services provided on an ongoing basis, such as portfolio management fees, asset-based investment fund fees, custody fees and account-keeping fees, which are generated on client assets. 3 Transaction-based income consists of the non-recurring portion of net fee and commission income, mainly composed of brokerage and transaction-based investment fund fees, as well as credit card fees and fees for payment transactions, together with Other net income from financial instruments measured at fair value through profit or loss. 4 Relates to licensed professionals with the ability to provide investment advice to clients in the Americas. 5 Financial advisor variable compensation consists of formulaic compensation based directly on compensable revenues generated by financial advisors and supplemental compensation calculated on the basis of financial advisor productivity, firm tenure, new assets and other variables. 6 Compensation commitments with recruited financial advisors represent expenses related to compensation commitments granted to financial advisors at the time of recruitment that are subject to vesting requirements. 7 Reflects restructuring expenses related to legacy cost programs as well as expenses for new restructuring initiatives. 8 Prior periods may include allocations (to) / from other business divisions. 9 Recurring income consists of net interest income and recurring net fee income. 10 Refer to the "Capital management" section of this report for more information. 11 Calculated as operating profit before tax (annualized as applicable) divided by average invested assets. 12 Loans and Customer deposits in this table include customer brokerage receivables and payables, respectively, which, with the adoption of IFRS 9, effective 1 January 2018, have been reclassified to a separate reporting line on the balance sheet. 13 Customer deposits in Global Wealth Management have been restated as of 31 December 2018 to reflect a reclassification of balances from Corporate Center, with no impact on customer deposits reported for the Group. This has resulted in an increase in customer deposits reported for Global Wealth Management of USD 6.3 billion as of 31 December 2018. 14 Personnel (full-time equivalents) as of 31 December 2019 has been amended compared with our fourth quarter 2019 report, resulting in a decrease of 6.

Regional breakdown of performance measures

As of or for the year ended 31.12.19 *USD billion, except where indicated*	Americas	EMEA (excluding Switzerland)	Asia Pacific	Switzerland	Total of regions[1]	*of which: ultra high net worth (UHNW)*
Net new money	(17.4)	10.5	31.4	7.5	32.0	*45.5*
Net new money growth (%)	(1.4)	2.1	8.8	3.7	1.4	*4.0*
Invested assets	1,403	552	450	228	2,633	*1,371*
Loans, gross	62.5[2]	37.1	43.1	36.0	178.7	
Advisors (full-time equivalents)	6,549	1,660	1,041	727	9,976	*1,042[3]*

1 Excluding minor functions with 101 advisors, USD 3 billion of invested assets, USD 0.6 billion of loans and USD 0.4 billion of net new money outflows in 2019. 2 Loans include customer brokerage receivables, which with the adoption of IFRS 9, effective 1 January 2018, have been reclassified to a separate reporting line on the balance sheet. 3 Represents advisors who exclusively serve ultra high net worth clients in a globally managed unit.

2019 compared with 2018

Results

Profit before tax increased by USD 143 million, or 4%, to USD 3,397 million. Excluding a USD 101 million valuation gain on our equity ownership in SIX related to the sale of SIX Payment Services to Worldline in 2018, a prior-year credit of USD 66 million related to our Swiss pension plan and restructuring expenses, adjusted profit before tax increased by USD 120 million, or 4%, to USD 3,466 million, reflecting lower operating expenses, partly offset by lower operating income.

Operating income included a USD 75 million fee received from Personal & Corporate Banking for the shift of USD 6 billion of business volume from Global Wealth Management to Personal & Corporate Banking, as a result of a detailed client segmentation review.

Operating income

Total operating income decreased by USD 432 million, or 3%, to USD 16,353 million. Excluding the aforementioned valuation gain on our equity ownership in SIX, adjusted total operating income decreased by USD 331 million, or 2%, mainly driven by lower recurring net fee income and net interest income, partly offset by higher transaction-based income and other income.

Net interest income decreased by USD 154 million to USD 3,947 million, mainly as a result of lower deposit and loan margins, partly offset by higher investment-of-equity income.

Recurring net fee income decreased by USD 319 million to USD 9,258 million, reflecting margin compression and moves into lower-margin products, partly offset by an increase in mandate penetration.

Transaction-based income increased by USD 88 million to USD 3,059 million, predominantly due to the aforementioned fee received from Personal & Corporate Banking.

→ **Refer to the "Group performance" section of our third quarter 2019 report for more information about the realignment of our client coverage between Global Wealth Management and Personal & Corporate Banking**

Other income decreased by USD 41 million to USD 110 million. Excluding the aforementioned valuation gain on our equity ownership in SIX, adjusted other income increased by USD 60 million, primarily due to a gain related to the repositioning of the liquidity portfolio in the Americas and gains related to legacy securities positions.

→ **Refer to the "Recent developments" section of our fourth quarter 2018 report for more information about the Worldline acquisition of SIX Payment Services**

Operating expenses

Total operating expenses decreased by USD 576 million, or 4%, to USD 12,955 million and adjusted operating expenses decreased by USD 451 million, or 3%, to USD 12,887 million.

Personnel expenses decreased by USD 62 million to USD 7,621 million. Excluding the aforementioned credit related to changes to our Swiss pension plan and restructuring expenses, adjusted personnel expenses decreased by USD 93 million, mainly due to lower variable compensation and lower staffing levels.

General and administrative expenses decreased by USD 507 million to USD 1,217 million. Excluding restructuring expenses, adjusted general and administrative expenses decreased by USD 492 million, predominantly driven by lower expenses for provisions for litigation, regulatory and similar matters.

Net expenses for services to/from Corporate Center and other business divisions decreased by USD 14 million to USD 4,056 million. Excluding restructuring expenses, adjusted net expenses for services increased by USD 126 million to USD 3,988 million, mainly due to higher expenses for regulatory projects and IT development costs.

Pre-tax profit growth

Pre-tax profit growth in 2019 was 4.4% compared with 1.1%. On an adjusted basis, pre-tax profit growth was positive 3.6%, compared with negative 12.1%, and was below our target range of 10–15% over the cycle.

Cost / income ratio

The cost / income ratio decreased to 79.1% from 80.5%. On an adjusted basis, the ratio decreased to 78.7% from 79.9% and was above our 2019 target of around 75%.

Net new money

Net new money inflows were USD 31.6 billion, compared with inflows of USD 24.7 billion, reflecting an annualized net new money growth rate of 1.4%, compared with 1.0%, and was below our 2019 target range of 2–4%.

Invested assets

Invested assets increased by USD 375 billion to USD 2,635 billion, mainly driven by positive market performance of USD 336 billion, net new money inflows of USD 32 billion and positive currency effects of USD 6 billion. Mandate penetration increased to 34.3% from 33.6%.

Personnel

Global Wealth Management employed 22,674 personnel (full-time equivalents) as of 31 December 2019, a decrease of 944 compared with 23,618 personnel as of 31 December 2018. The number of advisors decreased by 600 to 10,077. These decreases reflect the effect of cost management initiatives and a review of advisor portfolios.

Personal & Corporate Banking

Personal & Corporate Banking – in Swiss francs[1]

	As of or for the year ended		% change from
CHF million, except where indicated	31.12.19	31.12.18	31.12.18
Results			
Net interest income	1,980	2,003	(1)
Recurring net fee income[2]	634	625	1
Transaction-based income[3]	1,041	1,082	(4)
Other income	60	419	(86)
Income	3,714	4,128	(10)
Credit loss (expense) / recovery	(22)	(55)	(60)
Total operating income	3,692	4,074	(9)
Personnel expenses	850	786	8
General and administrative expenses	222	279	(20)
Services (to) / from Corporate Center and other business divisions	1,173	1,234	(5)
of which: services from Corporate Center	*1,286*	*1,336*	*(4)*
Depreciation and impairment of property, equipment and software	13	14	(6)
Amortization and impairment of goodwill and intangible assets	0	0	
Total operating expenses	2,259	2,313	(2)
Business division operating profit / (loss) before tax	1,433	1,760	(19)
Adjusted results			
Total operating income as reported	3,692	4,074	(9)
of which: gains related to investments in associates		*359*	
Total operating income (adjusted)	3,692	3,715	(1)
Total operating expenses as reported	2,259	2,313	(2)
of which: personnel-related restructuring expenses[4]	*0*	*4*	
of which: non-personnel-related restructuring expenses[4]	*0*	*0*	
of which: restructuring expenses allocated from Corporate Center[4,5]	*17*	*42*	
of which: gain related to changes to the Swiss pension plan		*(35)*	
Total operating expenses (adjusted)	2,242	2,302	(3)
Business division operating profit / (loss) before tax as reported	1,433	1,760	(19)
Business division operating profit / (loss) before tax (adjusted)	1,450	1,413	3
Performance measures			
Pre-tax profit growth (%)	(18.6)	21.6	
Cost / income ratio (%)	60.8	56.0	
Net interest margin (bps)	150	153	
Adjusted performance measures			
Pre-tax profit growth (%)	2.6	(8.8)	
Cost / income ratio (%)	60.4	61.1	

Personal & Corporate Banking – in Swiss francs (continued)[1]

	As of or for the year ended		% change from
CHF million, except where indicated	31.12.19	31.12.18	31.12.18
Additional information			
Average attributed equity (CHF billion)[6]	8.4	7.8	8
Return on attributed equity (%)[6]	17.1	22.5	
Risk-weighted assets (CHF billion)[6]	65.0	62.8	3
Leverage ratio denominator (CHF billion)[6]	217.1	210.2	3
Business volume for personal banking (CHF billion)	168	156	8
Net new business volume for personal banking (CHF billion)	7.3	6.6	
Net new business volume growth for personal banking (%)[7]	4.7	4.2	
Goodwill and intangible assets (CHF billion)	0.0	0.0	0
Client assets (CHF billion)[8]	685	638	7
Loans, gross (CHF billion)	132.2	131.0	1
Customer deposits (CHF billion)	150.5	141.7	6
Secured loan portfolio as a percentage of total loan portfolio, gross (%)	92.6	92.0	
Impaired loan portfolio as a percentage of total loan portfolio, gross (%)[9]	1.1	1.3	
Personnel (full-time equivalents)	5,148	5,183	(1)

1 Prior-year comparative figures in this table have been restated for the changes in Corporate Center cost and resource allocation to the business divisions and the changes in the equity attribution framework effective 1 January 2019. Refer to "Note 1 Basis of accounting" in the "Consolidated financial statements" section of our first quarter 2019 report for more information about the changes to the Corporate Center cost and resource allocation to business divisions and to the "Recent developments" section of our first quarter 2019 report for more information about the changes in the equity attribution framework. Comparatives may additionally differ as a result of adjustments following organizational changes, restatements due to the retrospective adoption of new accounting standards or changes in accounting policies, and events after the reporting period. 2 Recurring net fee income consists of fees for services provided on an ongoing basis, such as portfolio management fees, asset-based investment fund fees, custody fees and account-keeping fees, which are generated on client assets. 3 Transaction-based income comprises the non-recurring portion of net fee and commission income, mainly consisting of brokerage and transaction-based investment fund fees, as well as credit card fees and fees for payment transactions, together with Other net income from financial instruments measured at fair value through profit or loss. 4 Reflects restructuring expenses related to legacy cost programs. 5 Prior periods may include allocations (to) / from other business divisions. 6 Refer to the "Capital management" section of this report for more information. 7 Calculated as net new business volume for the period (annualized as applicable) divided by business volume at the beginning of the period. 8 Client assets are comprised of invested assets and other assets held purely for transactional purposes or custody only. We do not measure net new money for Personal & Corporate Banking. 9 Refer to the "Risk management and control" section of this report for more information about (credit-)impaired exposures.

2019 compared with 2018

Results

Profit before tax decreased by CHF 327 million, or 19%, to CHF 1,433 million. Adjusted profit before tax increased by CHF 37 million, or 3%, to CHF 1,450 million, reflecting lower operating expenses and lower operating income. This excluded a prior-year CHF 359 million valuation gain on our equity ownership in SIX related to the sale of SIX Payment Services to Worldline, a credit related to changes to our Swiss plan in 2018 and restructuring expenses.

Operating income included a CHF 73 million fee paid to Global Wealth Management for the shift of CHF 6 billion of business volume from Global Wealth Management to Personal & Corporate Banking, as a result of a detailed client segmentation review.

Operating income

Total operating income decreased by CHF 382 million, or 9%, to CHF 3,692 million. Excluding the aforementioned valuation gain on our equity ownership in SIX, adjusted operating income decreased by CHF 23 million, mainly reflecting lower transaction-based income and lower net interest income, partly offset by lower credit loss expenses and higher recurring net fee income.

Net interest income decreased by CHF 23 million to CHF 1,980 million, mainly due to higher funding costs for long-term debt that contributes to total loss-absorbing capacity and lower banking book interest income. This was partly offset by higher deposit revenues.

Recurring net fee income increased by CHF 9 million to CHF 634 million, mainly reflecting higher fees from bundled products.

Transaction-based income decreased by CHF 41 million to CHF 1,041 million, mainly reflecting the aforementioned fee paid to Global Wealth Management, partly offset by higher revenues from credit card and foreign exchange transactions.

→ **Refer to the "Group performance" section of our third quarter 2019 report for more information about the realignment of our client coverage between Global Wealth Management and Personal & Corporate Banking**

Other income decreased by CHF 359 million to CHF 60 million. Excluding the aforementioned valuation gain on our equity ownership in SIX, adjusted other income remained stable.

→ **Refer to the "Recent developments" section of our fourth quarter 2018 report for more information about the Worldline acquisition of SIX Payment Services**

We recorded a net credit loss expense of CHF 22 million compared with CHF 55 million. This reflects stage 1 and 2 net credit recoveries of CHF 23 million compared with CHF 0 million for 2018, primarily attributable to a minor improvement in loan book quality following continued positive developments of selected economic input data, as well as stage 3 net credit loss expenses of CHF 44 million compared with CHF 55 million.

→ **Refer to "Credit risk" in the "Risk management and control" section of this report for more information about expected credit losses**

Operating expenses

Operating expenses decreased by CHF 54 million to CHF 2,259 million. Excluding a credit of CHF 35 million related to changes to our Swiss pension plan in 2018 and restructuring expenses, adjusted total operating expenses decreased by CHF 60 million to CHF 2,242 million, mainly reflecting CHF 40 million lower expenses for provisions for litigation, regulatory and similar matters and CHF 36 million lower net expenses services to/from Corporate Center and other business divisions.

Personnel expenses increased by CHF 64 million to CHF 850 million. Excluding the aforementioned credit related to changes to our Swiss pension plan in 2018, adjusted personnel expenses increased by CHF 33 million, mainly reflecting higher variable compensation.

General and administrative expenses decreased by CHF 57 million to CHF 222 million, primarily reflecting CHF 40 million lower expenses for provisions for litigation, regulatory and similar matters.

Net expenses for services to/from Corporate Center and other business divisions decreased by CHF 61 million to CHF 1,173 million. Adjusted net expenses for services decreased by CHF 36 million to CHF 1,156 million, mainly reflecting lower expenses for regulatory projects and real estate.

Pre-tax profit growth

Pre-tax profit growth in 2019 was negative 18.6% compared with positive 21.6%, mainly due to the aforementioned valuation gain on our equity ownership in SIX in 2018. On an adjusted basis, pre-tax profit growth was positive 2.6%, compared with negative 8.8%, and was slightly below our target range of 3–5% over the cycle.

Cost / income ratio

The cost / income ratio increased to 60.8% from 56.0%, mainly due to the aforementioned valuation gain on our equity ownership in SIX in 2018. On an adjusted basis, the ratio decreased to 60.4%, compared with 61.1%, and was slightly above our 2019 target of around 59%.

Net interest margin

The net interest margin was 150 basis points compared with 153 basis points on both a reported and adjusted basis, as net interest income decreased and average loan volume increased.

Personnel

Personal & Corporate Banking employed 5,148 personnel (full-time equivalents) as of 31 December 2019, a decrease of 35 compared with 5,183 personnel as of 31 December 2018.

Personal & Corporate Banking – in US dollars[1]

	As of or for the year ended		% change from
USD million, except where indicated	31.12.19	31.12.18	31.12.18
Results			
Net interest income	1,992	2,049	(3)
Recurring net fee income[2]	638	640	0
Transaction-based income[3]	1,045	1,108	(6)
Other income	60	420	(86)
Income	3,736	4,217	(11)
Credit loss (expense) / recovery	(21)	(56)	(63)
Total operating income	3,715	4,161	(11)
Personnel expenses	856	803	7
General and administrative expenses	224	285	(21)
Services (to) / from Corporate Center and other business divisions	1,181	1,263	(7)
of which: services from Corporate Center	*1,294*	*1,367*	*(5)*
Depreciation and impairment of property, equipment and software	13	14	(7)
Amortization and impairment of goodwill and intangible assets	0	0	
Total operating expenses	2,274	2,365	(4)
Business division operating profit / (loss) before tax	1,441	1,796	(20)
Adjusted results			
Total operating income as reported	3,715	4,161	(11)
of which: gains related to investments in associates		*359*	
Total operating income (adjusted)	3,715	3,802	(2)
Total operating expenses as reported	2,274	2,365	(4)
of which: personnel-related restructuring expenses[4]	*0*	*4*	
of which: non-personnel-related restructuring expenses[4]	*0*	*0*	
of which: restructuring expenses allocated from Corporate Center[4,5]	*17*	*43*	
of which: gain related to changes to the Swiss pension plan		*(38)*	
Total operating expenses (adjusted)	2,257	2,355	(4)
Business division operating profit / (loss) before tax as reported	1,441	1,796	(20)
Business division operating profit / (loss) before tax (adjusted)	1,458	1,447	1
Performance measures			
Pre-tax profit growth (%)	(19.7)	21.8	
Cost / income ratio (%)	60.9	56.1	
Net interest margin (bps)	149	153	
Adjusted performance measures			
Pre-tax profit growth (%)	0.8	(8.4)	
Cost / income ratio (%)	60.4	61.0	

Personal & Corporate Banking – in US dollars (continued)[1]

	As of or for the year ended		% change from
USD million, except where indicated	31.12.19	31.12.18	31.12.18
Additional information			
Average attributed equity (USD billion)[6]	8.4	8.0	5
Return on attributed equity (%)[6]	17.1	22.5	
Risk-weighted assets (USD billion)[6]	67.1	63.9	5
Leverage ratio denominator (USD billion)[6]	224.2	213.7	5
Business volume for personal banking (USD billion)	174	158	10
Net new business volume for personal banking (USD billion)	7.3	6.7	
Net new business volume growth for personal banking (%)[7]	4.6	4.2	
Goodwill and intangible assets (USD billion)	0.0	0.0	2
Client assets (USD billion)[8]	708	648	9
Loans, gross (USD billion)	136.6	133.3	2
Customer deposits (USD billion)	155.5	144.1	8
Secured loan portfolio as a percentage of total loan portfolio, gross (%)	92.6	92.0	
Impaired loan portfolio as a percentage of total loan portfolio, gross (%)[9]	1.1	1.3	
Personnel (full-time equivalents)	5,148	5,183	(1)

1 Prior-year comparative figures in this table have been restated for the changes in Corporate Center cost and resource allocation to the business divisions and the changes in the equity attribution framework effective 1 January 2019. Refer to "Note 1 Basis of accounting" in the "Consolidated financial statements" section of our first quarter 2019 report for more information about the changes to the Corporate Center cost and resource allocation to business divisions and to the "Recent developments" section of our first quarter 2019 report for more information about the changes in the equity attribution framework. Comparatives may additionally differ as a result of adjustments following organizational changes, restatements due to the retrospective adoption of new accounting standards or changes in accounting policies, and events after the reporting period. 2 Recurring net fee income consists of fees for services provided on an ongoing basis, such as portfolio management fees, asset-based investment fund fees, custody fees and account-keeping fees, which are generated on client assets. 3 Transaction-based income comprises the non-recurring portion of net fee and commission income, mainly consisting of brokerage and transaction-based investment fund fees, as well as credit card fees and fees for payment transactions, together with Other net income from financial instruments measured at fair value through profit or loss. 4 Reflects restructuring expenses related to legacy cost programs. 5 Prior periods may include allocations (to) / from other business divisions. 6 Refer to the "Capital management" section of this report for more information. 7 Calculated as net new business volume for the period (annualized as applicable) divided by business volume at the beginning of the period. 8 Client assets are comprised of invested assets and other assets held purely for transactional purposes or custody only. We do not measure net new money for Personal & Corporate Banking. 9 Refer to the "Risk management and control" section of this report for more information about (credit-)impaired exposures.

Asset Management

Asset Management[1]

	As of or for the year ended		% change from
USD million, except where indicated	31.12.19	31.12.18	31.12.18
Results			
Net management fees[2]	1,778	1,772	0
Performance fees	160	80	100
Total operating income	1,938	1,852	5
Personnel expenses	722	703	3
General and administrative expenses	197	202	(3)
Services (to) / from Corporate Center and other business divisions	486	518	(6)
of which: services from Corporate Center	*531*	*563*	*(6)*
Depreciation and impairment of property, equipment and software	1	2	(53)
Amortization and impairment of goodwill and intangible assets	0	1	
Total operating expenses	1,406	1,426	(1)
Business division operating profit / (loss) before tax	532	426	25
Adjusted results			
Total operating income as reported	1,938	1,852	5
Total operating income (adjusted)	1,938	1,852	5
Total operating expenses as reported	1,406	1,426	(1)
of which: personnel-related restructuring expenses[3]	*6*	*23*	
of which: non-personnel-related restructuring expenses[3]	*7*	*10*	
of which: restructuring expenses allocated from Corporate Center[3]	*20*	*33*	
of which: gain related to changes to the Swiss pension plan		*(10)*	
Total operating expenses (adjusted)	1,373	1,370	0
Business division operating profit / (loss) before tax as reported	532	426	25
Business division operating profit / (loss) before tax (adjusted)	565	482	17
Performance measures			
Pre-tax profit growth (%)	24.9	(24.3)	
Cost / income ratio (%)	72.6	77.0	
Net new money growth excluding money market flows (%)[4]	1.8	3.5	
Adjusted performance measures			
Pre-tax profit growth (%)[5]	17.1	(0.8)	
Cost / income ratio (%)	70.8	74.0	
Information by business line / asset class			
Net new money (USD billion)[4]			
Equities	23.8	8.8	
Fixed Income	(9.2)	8.3	
of which: money market	*5.2*	*7.5*	
Multi-asset & Solutions	5.1	13.6	
Hedge Fund Businesses	(3.2)	0.3	
Real Estate & Private Markets	1.3	1.1	
Total net new money	17.8	32.2	
of which: net new money excluding money markets	*12.6*	*24.7*	

Asset Management (continued)[1]

	As of or for the year ended		% change from
USD million, except where indicated	31.12.19	31.12.18	31.12.18
Invested assets (USD billion)[4]			
Equities	367	272	35
Fixed Income	253	253	0
of which: money market	*102*	*95*	*6*
Multi-asset & Solutions	155	132	17
Hedge Fund Businesses	42	42	(1)
Real Estate & Private Markets	86	82	5
Total invested assets	903	781	16
of which: passive strategies	*374*	*298*	*26*
Information by region			
Invested assets (USD billion)			
Americas	206	192	7
Asia Pacific	155	141	11
Europe, Middle East and Africa (excluding Switzerland)	236	189	25
Switzerland	306	259	18
Total invested assets	903	781	16
Information by channel			
Invested assets (USD billion)			
Third-party institutional	552	484	14
Third-party wholesale	98	78	25
UBS's wealth management businesses	253	219	15
Total invested assets	903	781	16
Additional information			
Average attributed equity (USD billion)[6]	1.8	1.8	(1)
Return on attributed equity (%)[6]	29.7	23.5	
Risk-weighted assets (USD billion)[6]	4.6	4.3	6
Leverage ratio denominator (USD billion)[6]	5.0	5.0	(2)
Goodwill and intangible assets (USD billion)	1.4	1.4	0
Net margin on invested assets (bps)[7]	6	5	22
Gross margin on invested assets (bps)	23	23	2
Personnel (full-time equivalents)	2,284	2,301	(1)

1 Prior-year comparative figures in this table have been restated for the changes in Corporate Center cost and resource allocation to the business divisions and the changes in the equity attribution framework effective 1 January 2019. Refer to "Note 1 Basis of accounting" in the "Consolidated financial statements" section of our first quarter 2019 report for more information about the changes to the Corporate Center cost and resource allocation to business divisions and to the "Recent developments" section of our first quarter 2019 report for more information about the changes in the equity attribution framework. Comparatives may additionally differ as a result of adjustments following organizational changes, restatements due to the retrospective adoption of new accounting standards or changes in accounting policies, and events after the reporting period. 2 Net management fees include transaction fees, fund administration revenues (including net interest and trading income from lending activities and foreign exchange hedging as part of the fund services offering), gains or losses from seed money and co-investments, funding costs, and other items that are not performance fees. 3 Reflects restructuring expenses related to legacy cost programs as well as expenses for new restructuring initiatives. 4 Effective 1 January 2019, certain assets have been reclassified between asset classes to better reflect their underlying nature, with prior-period information restated. The adjustments have no effect on total net new money and total invested assets. 5 Excluding the effect of business exits. 6 Refer to the "Capital management" section of this report for more information. 7 Calculated as operating profit before tax (annualized as applicable) divided by average invested assets.

2019 compared with 2018

Results

Profit before tax increased by USD 106 million, or 25%, to USD 532 million. Excluding a credit of USD 10 million related to changes to our Swiss pension plan in the first quarter of 2018 and restructuring expenses, adjusted profit before tax increased by USD 83 million, or 17%, to USD 565 million, reflecting higher operating income and stable operating expenses.

Operating income

Total operating income increased by USD 86 million, or 5%, to USD 1,938 million.

Net management fees increased by USD 6 million to USD 1,778 million, reflecting the effect of higher average invested assets, partly offset by continued pressure on margins.

Performance fees increased by USD 80 million to USD 160 million, mainly driven by increases in performance fees in Equities and in Hedge Fund Businesses, reflecting strong investment performance in a constructive market environment.

Operating expenses

Total operating expenses decreased by USD 20 million, or 1%, to USD 1,406 million, while adjusted total operating expenses were broadly stable at USD 1,373 million.

Personnel expenses increased by USD 19 million to USD 722 million. Excluding the aforementioned credit related to changes to our Swiss pension plan in the first quarter of 2018 and personnel-related restructuring expenses, adjusted personnel expenses increased by USD 26 million to USD 716 million, driven by higher expenses for variable compensation.

General and administrative expenses decreased by USD 5 million to USD 197 million. Adjusted general and administrative expenses were broadly stable at USD 190 million.

Net expenses for services to/from Corporate Center and other business divisions decreased by USD 32 million to USD 486 million. Adjusted net expenses for services from Corporate Center and other business divisions decreased by USD 19 million to USD 466 million, primarily driven by a shift of market data service charges from Group Operations to Asset Management, which were partly offset by higher expenses from Group Technology.

Pre-tax profit growth

On a reported basis, 2019 pre-tax profit growth was positive 24.9% compared with negative 24.3%. On an adjusted basis, pre-tax profit growth was positive 17.1% compared with negative 0.8% and was above our target of around 10% over the cycle.

Cost / income ratio

The cost / income ratio was 72.6% compared with 77.0%. On an adjusted basis, the ratio was 70.8% compared with 74.0%, which is below our 2019 target of around 72%.

Net new money

Net new money was USD 17.8 billion, compared with inflows of USD 32.2 billion. Excluding money market flows, net new money was USD 12.6 billion compared with inflows of USD 24.7 billion, primarily driven by our third-party wholesale and UBS's wealth management businesses channels. The net new money growth rate, excluding money market flows, was positive 1.8%, compared with positive 3.5%, and was below our 2019 target range of 3–5%. Net inflows were mainly driven by Europe and Switzerland.

Invested assets

Invested assets increased to USD 903 billion from USD 781 billion, mainly due to positive market performance of USD 101 billion, net new money inflows of USD 18 billion, and positive foreign currency translation effects of USD 3 billion.

Personnel

Asset Management employed 2,284 personnel (full-time equivalents) as of 31 December 2019, a decrease of 17 compared with 2,301 personnel as of 31 December 2018.

Investment performance

2019 saw most risk assets perform strongly. The US Federal Reserve dramatically reversed its policy guidance in early 2019, triggering a significant rally from depressed valuations and supporting markets into the year-end.

In 2019, 79% of our active traditional funds outperformed their benchmark and 69% outperformed peer medians. Long-term performance remains strong despite a challenging 2018, with 85% outperforming their benchmark and 82% outperforming peer medians over five years.

Investment performance as of 31 December 2019

		Annualized	
Active funds versus benchmark	1 year	3 years	5 years
Percentage of fund assets exceeding benchmark			
Equities[1]	82	87	89
Fixed income[1]	98	100	100
Multi-asset[1]	17	48	33
Total traditional investments	79	86	85
Active funds versus peers			
Percentage of fund assets ranking in first or second quartile / exceeding peer index			
Equities[1]	79	92	92
Fixed income[1]	51	58	77
Multi-asset[1]	69	75	72
Total traditional investments	69	77	82
Passive funds tracking accuracy			
Percentage of passive fund assets within applicable tracking tolerance			
All asset classes[2]	93	93	94

1 Percentage of active fund assets above benchmark (gross of fees) / peer median. Based on the universe of Europe-domiciled active wholesale funds available to UBS's wealth management businesses and other wholesale intermediaries as of 31 December 2019. Source of comparison versus peers: Thomson Reuters LIM (Lipper Investment Management). Source of comparison versus benchmark: UBS. Universe represents approximately 64% of all active traditional fund assets (Equities, Fixed Income excluding money market, and Multi-asset), 24% of all actively managed traditional assets including segregated accounts (Equities, Fixed Income excluding money market, and Multi-asset) and 17% of all actively managed assets including segregated accounts (Equities, Fixed Income excluding money market, Multi-asset, Hedge Fund Businesses, and Real Estate & Private Markets) as of 31 December 2019. 2 Percentage of passive fund assets within applicable tracking tolerance on a gross of fees basis. Tracking accuracy information represents a universe of Europe-domiciled institutional and wholesale funds representing approximately 40% of our total passive invested assets as of 31 December 2019. Source: UBS.

Investment Bank

Investment Bank[1]

	As of or for the year ended		% change from
USD million, except where indicated	31.12.19	31.12.18	31.12.18
Results			
Corporate Client Solutions	2,267	2,621	(13)
Advisory	707	717	(1)
Equity Capital Markets	631	785	(20)
Debt Capital Markets	652	769	(15)
Financing Solutions	270	278	(3)
Risk Management	7	72	(90)
Investor Client Services	5,032	5,458	(8)
Equities	3,453	3,850	(10)
Foreign Exchange, Rates and Credit	1,579	1,609	(2)
Income	7,299	8,079	(10)
Credit loss (expense) / recovery	(30)	(38)	(22)
Total operating income	7,269	8,041	(10)
Personnel expenses	2,748	2,941	(7)
General and administrative expenses	688	651	6
Services (to) / from Corporate Center and other business divisions	2,926	2,942	(1)
of which: services from Corporate Center	*2,980*	*2,995*	*(1)*
Depreciation and impairment of property, equipment and software	8	8	(9)
Amortization and impairment of goodwill and intangible assets	115	12	833
Total operating expenses	6,485	6,554	(1)
Business division operating profit / (loss) before tax	784	1,486	(47)
Adjusted results			
Total operating income as reported	7,269	8,041	(10)
Total operating income (adjusted)	7,269	8,041	(10)
Total operating expenses as reported	6,485	6,554	(1)
of which: personnel-related restructuring expenses[2]	*84*	*16*	
of which: non-personnel-related restructuring expenses[2]	*7*	*11*	
of which: restructuring expenses allocated from Corporate Center[2]	*77*	*166*	
of which: gain related to changes to the Swiss pension plan		*(5)*	
of which: impairment of goodwill	*110*		
Total operating expenses (adjusted)	6,208	6,367	(3)
Business division operating profit / (loss) before tax as reported	784	1,486	(47)
Business division operating profit / (loss) before tax (adjusted)	1,061	1,674	(37)

Investment Bank (continued)[1]

	As of or for the year ended		% change from
USD million, except where indicated	31.12.19	31.12.18	31.12.18
Performance measures			
Return on attributed equity (%)[3]	6.4	11.5	
Cost / income ratio (%)	88.9	81.1	
Adjusted performance measures			
Return on attributed equity (%)[3]	8.6	12.9	
Cost / income ratio (%)	85.1	78.8	
Additional information			
Pre-tax profit growth (%)	(47.3)	36.7	
Adjusted pre-tax profit growth (%)	(36.6)	24.7	
Average attributed equity (USD billion)[3]	12.3	13.0	(5)
Risk-weighted assets (USD billion)[3]	81.1	93.2	(13)
Return on risk-weighted assets, gross (%)	8.2	9.0	
Leverage ratio denominator (USD billion)[3]	293.2	283.4	3
Return on leverage ratio denominator, gross (%)	2.5	2.6	
Goodwill and intangible assets (USD billion)	0.0	0.1	(96)
Compensation ratio (%)	37.7	36.4	
Average VaR (1-day, 95% confidence, 5 years of historical data)	9	11	(16)
Impaired loan portfolio as a percentage of total loan portfolio, gross (%)[4,5]	0.7	1.4	
Personnel (full-time equivalents)[6]	5,331	5,205	2

1 Prior-year comparative figures in this table have been restated for the changes in Corporate Center cost and resource allocation to the business divisions and the changes in the equity attribution framework effective 1 January 2019. Refer to "Note 1 Basis of accounting" in the "Consolidated financial statements" section of our first quarter 2019 report for more information about the changes to the Corporate Center cost and resource allocation to business divisions and to the "Recent developments" section of our first quarter 2019 report for more information about the changes in the equity attribution framework. Comparatives may additionally differ as a result of adjustments following organizational changes, restatements due to the retrospective adoption of new accounting standards or changes in accounting policies, and events after the reporting period. 2 Reflects restructuring expenses related to legacy cost programs. 3 Refer to the "Capital management" section of this report for more information. 4 Refer to the "Risk management and control" section of this report for more information about (credit-)impaired loan exposures. 5 Impaired loan portfolio as a percentage of total loan portfolio, gross, as of 31 December 2018 has been restated, resulting in a decrease of 0.1%. 6 Personnel (full-time equivalents) as of 31 December 2019 has been amended compared with our fourth quarter 2019 report, resulting in a decrease of 1.

2019 compared with 2018

Results

Profit before tax decreased by USD 702 million, or 47%, to USD 784 million. Excluding restructuring expenses and a goodwill charge, adjusted profit before tax decreased by USD 613 million, or 37%, to USD 1,061 million. This was driven by lower operating income, partly offset by lower operating expenses.

Operating income

Total operating income decreased by USD 772 million, or 10%, to USD 7,269 million. The prior year included net income of around USD 100 million, consisting mainly of previously deferred day-1 profits that were subsequently recognized as a result of enhanced observability and revised valuations in the funding curve used to value UBS interest rate-linked notes, and USD 53 million of revenues from Group Treasury for the rebalancing of the Group's currency exposures in connection with the change of functional and presentation currencies. Excluding these items, total operating income decreased 8%. Net credit loss expense was USD 30 million compared with USD 38 million.

Operating income by business unit

Corporate Client Solutions

Corporate Client Solutions revenues decreased by USD 354 million, or 13%, to USD 2,267 million, as a result of lower revenues across all income lines.

Advisory revenues decreased by USD 10 million, or 1%, to USD 707 million, reflecting lower revenues from merger and acquisition transactions, while the global fee pool decreased 10%. Lower revenues from public transactions were partly offset by higher revenues from private transactions.

Equity Capital Markets revenues decreased 20% to USD 631 million from a stronger prior year of USD 785 million, largely driven by lower revenues from private transactions. Revenues from public offerings were also lower, against a decrease in the global fee pool of 5%.

Debt Capital Markets revenues decreased 15% to USD 652 million from USD 769 million, mainly reflecting lower leveraged finance revenues, against a global fee pool decrease of 14%.

Financing Solutions revenues decreased 3% to USD 270 million from USD 278 million, reflecting lower levels of client activity.

Risk Management revenues decreased 90% to USD 7 million from USD 72 million, mainly due to lower gains on a smaller portfolio of loans that were largely exited in 2018, and due to lower gains on a restructured debt position.

Investor Client Services

Investor Client Services revenues decreased by USD 426 million, or 8%, to USD 5,032 million, reflecting lower revenues in both Equities and Foreign Exchange, Rates and Credit.

Equities

Equities revenues decreased by USD 397 million, or 10%, to USD 3,453 million, with lower revenues across all product lines.

Cash revenues decreased to USD 1,169 million from USD 1,258 million, mainly reflecting lower market volumes.

Derivatives revenues decreased to USD 851 million from USD 1,041 million, reflecting a strong prior year and lower client activity levels.

Financing Services revenues decreased to USD 1,452 million from USD 1,610 million, primarily driven by prime brokerage.

Foreign Exchange, Rates and Credit

Foreign Exchange, Rates and Credit revenues decreased 2% to USD 1,579 million from USD 1,609 million, primarily due to the second quarter of 2018 including net income of around USD 100 million, consisting mainly of the aforementioned previously deferred day-1 profits. The comparison of Foreign Exchange, Rates and Credit revenues was also affected by the fourth quarter of 2018, including USD 53 million of the aforementioned revenues from Group Treasury. Excluding these items, Foreign Exchange, Rates and Credit revenues increased 9%, reflecting an increase in Rates and Credit revenues, mainly due to higher client activity levels in a more constructive trading environment, partly offset by a decrease in Foreign exchange revenues, reflecting lower levels of volatility and client activity levels.

Operating expenses

Total operating expenses decreased by USD 69 million, or 1%, to USD 6,485 million, and adjusted operating expenses decreased by USD 159 million, or 3%, to USD 6,208 million.

Personnel expenses decreased to USD 2,748 million from USD 2,941 million, and adjusted personnel expenses decreased to USD 2,664 million from USD 2,930 million, mainly reflecting lower variable compensation expenses.

General and administrative expenses increased to USD 688 million from USD 651 million, and on an adjusted basis increased to USD 682 million from USD 640 million, mostly due to the prior year including a USD 64 million net release of provisions for litigation, regulatory and similar matters.

Net expenses for services to/from Corporate Center and other business divisions decreased to USD 2,926 million from USD 2,942 million. Excluding restructuring expenses, adjusted net expenses increased to USD 2,849 million from USD 2,776 million, mainly due to higher expenses for IT development and amortization of software and compliance costs.

Amortization and impairment of goodwill and intangible assets increased by USD 103 million to USD 115 million. Excluding a USD 110 million goodwill charge, amortization and impairment of goodwill and intangibles assets on an adjusted basis decreased by USD 7 million to USD 6 million. As we continue to realign our Investment Bank and execute on a number of strategic initiatives to drive profitable growth, IAS 36, *Impairment of Assets*, requires us to give consideration to the range of possible forecast cash flows and uncertainties in macroeconomic factors that currently exist when determining the recoverability of goodwill. With this write-down, goodwill in the Investment Bank is now nil.

Cost / income ratio

The cost / income ratio increased to 88.9% from 81.1%. On an adjusted basis, the cost / income ratio increased to 85.1% from 78.8%, and was above our 2019 target range of around 78%.

Return on attributed equity

Return on attributed equity for 2019 was 6.4%, and 8.6% on an adjusted basis, below our target of around 15% over the cycle.

→ **Refer to "Equity attribution and return on attributed equity" in the "Capital management" section of this report for more information**

Risk-weighted assets

Risk-weighted assets (RWA) decreased by USD 12 billion to USD 81 billion as of 31 December 2019, driven by lower market risk RWA, reflecting lower average regulatory and stressed value-at-risk levels.

→ **Refer to the "Capital management" section of this report for more information**

Leverage ratio denominator

The leverage ratio denominator (LRD) increased by USD 10 billion to USD 293 billion as of 31 December 2019, due to an increase in trading portfolio assets, reflecting market appreciation, partly offset by lower derivative and securities financing transaction exposures.

→ **Refer to the "Capital management" section of this report for more information**

Personnel

The Investment Bank employed 5,331 personnel (full-time equivalents) as of 31 December 2019, an increase of 126 compared with 5,205 personnel as of 31 December 2018, primarily as a result of the consolidation of the Documentation Unit and Client Hub into the Investment Bank.

Corporate Center

Corporate Center[1,2]

	As of or for the year ended		% change from
USD million, except where indicated	31.12.19	31.12.18	31.12.18
Results			
Operating profit / (loss) before tax	(577)	(971)	(41)
of which: Group Treasury	*(69)*	*(445)*	*(84)*
of which: Non-core and Legacy Portfolio	*(84)*	*(128)*	*(35)*
of which: Retained Services	*(424)*	*(398)*	*7*
Adjusted results			
Total operating income as reported	(385)	(626)	(38)
of which: gains on sale of real estate		*31*	
of which: gain / (loss) on sale of subsidiaries and businesses		*25*	
of which: remeasurement loss related to UBS Securities China		*(270)*	
of which: net foreign currency translation gains / (losses)	*(35)*		
of which: net gains / (losses) from properties held for sale	*(29)*		
Total operating income (adjusted)	(321)	(413)	(22)
Total operating expenses as reported	192	346	(44)
of which: gain related to changes to the Swiss pension plan		*(122)*	
of which: net restructuring (credits) / expenses	*(2)*	*(4)*	*(49)*
Total operating expenses (adjusted)	194	472	(59)
Operating profit / (loss) before tax as reported	(577)	(971)	(41)
Operating profit / (loss) before tax (adjusted)	(515)	(885)	(42)
Additional information			
Average attributed equity (USD billion)[3]	15.1	13.3	13
Risk-weighted assets (USD billion)[3]	28.3	28.1	1
Leverage ratio denominator (USD billion)[3]	76.2	86.5	(12)
Personnel (full-time equivalents)[4]	33,164	30,581	8

1 Prior-year comparative figures in this table have been restated for the changes in Corporate Center cost and resource allocation to the business divisions and the changes in the equity attribution framework effective 1 January 2019. Refer to "Note 1 Basis of accounting" in the "Consolidated financial statements" section of our first quarter 2019 report for more information about the changes to the Corporate Center cost and resource allocation to business divisions and to the "Recent developments" section of our first quarter 2019 report for more information about the changes in the equity attribution framework. Comparatives may additionally differ as a result of adjustments following organizational changes, restatements due to the retrospective adoption of new accounting standards or changes in accounting policies, and events after the reporting period. 2 The presentation of reported results in this table has been amended to focus on operating profit / (loss), providing a breakdown into Group Treasury, Non-core and Legacy Portfolio, and Retained Services. 3 Refer to the "Capital management" section of this report for more information. 4 Personnel (full-time equivalents) as of 31 December 2019 has been amended compared with our fourth quarter 2019 report, resulting in a decrease of 54.

2019 compared with 2018

Results

Corporate Center recorded a loss before tax of USD 577 million, compared with a loss of USD 971 million in the prior year. The adjusted loss before tax was USD 515 million compared with a loss of USD 885 million, excluding the remeasurement loss related to the increase of our shareholding in UBS Securities China in 2018, a prior-year credit related to changes to our Swiss pension plan and other adjusting items.

Group Treasury

The Group Treasury result was a loss of USD 69 million, compared with a loss of USD 445 million. The adjusted loss before tax was USD 33 million, compared with a loss of USD 443 million, excluding net foreign currency translation losses in 2019 and restructuring expenses.

Group Treasury included income from accounting asymmetries that were positive USD 103 million, compared with negative USD 77 million. Revenues relating to centralized Group Treasury risk management services were negative USD 168 million, compared with negative revenues of USD 320 million. Revenues related to hedge accounting ineffectiveness were positive USD 118 million, compared with positive USD 25 million. Adjusted operating expenses increased to USD 93 million, compared with USD 81 million.

Non-core and Legacy Portfolio

The Non-core and Legacy Portfolio result was a loss of USD 84 million, compared with a loss of USD 128 million. The improved result was mainly due to lower operating expenses driven by the release of litigation provisions and decreased net expenses for services from business divisions and other Corporate Center units. Net operating income decreased, mainly due to 2018 including higher valuation gains on auction rate securities. This was partly offset by a gain related to the settlement of a litigation claim and income related to a claim on a defaulted counterparty position.

Retained Services

The Retained Services result was a loss of USD 424 million, compared with a loss of USD 398 million. 2019 included losses from the remeasurement of properties reclassified as properties held for sale, while 2018 included gains on sale of real estate, a gain on the sale of subsidiaries and businesses and the remeasurement loss related to the increase of our shareholding in UBS Securities China. Excluding the aforementioned adjusting items and restructuring expenses, the adjusted result was negative USD 400 million, compared with negative USD 317 million, mainly due to higher funding costs related to deferred tax assets, reflecting higher interest rates.

Personnel

As of 31 December 2019, Corporate Center employed 33,164 personnel (full-time equivalents), a net increase of 2,583 compared with 31 December 2018. The increase was mainly driven by the ongoing insourcing of certain activities from third-party vendors to our Business Solutions Centers, resulting in a decrease of approximately 2,200 outsourced staff.

Risk, treasury and capital management

Management report

Audited information according to IFRS 7 and IAS 1

Risk and capital disclosures provided in line with the requirements of International Financial Reporting Standard 7 (IFRS 7), *Financial Instruments: Disclosures,* and International Accounting Standard 1 (IAS 1), *Presentation of Financial Statements,* form part of the financial statements included in the "Consolidated financial statements" section of this report and audited by the independent registered public accounting firm Ernst & Young Ltd, Basel. This information is marked as "Audited" within this section of the report. The risk profile of UBS AG consolidated does not differ materially from that of UBS Group AG consolidated. Audited information provided in the "Risk management and control" and "Treasury management" sections applies to both UBS Group AG consolidated and UBS AG consolidated.

Signposts

The **Audited |** signpost that is displayed at the beginning of a section, table or chart indicates that those items have been audited. A triangle symbol – ▲ – indicates the end of the audited section, table or chart.

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Risk management and control

Overview of risks arising from our business activities

The scale of our business activities is dependent on the capital we have available to cover the risks in our businesses, the size of our on- and off-balance sheet assets through their contribution to our capital, leverage and liquidity ratios, and our risk appetite.

Our overall credit risk profile remained broadly unchanged in 2019 and we continued to manage market risks at generally low levels.

Operational resilience, conduct and prevention of financial crime remain key focus topics.

The "Risk measures and performance" table on the next page shows risk-weighted assets (RWA), the leverage ratio denominator (the LRD) and risk-based capital (RBC), as well as attributed tangible equity, total assets and operating profit before tax on both a reported and adjusted basis for our business divisions and Corporate Center. This illustrates how the activities in our business divisions and Corporate Center are captured in the risk measures mentioned above the table, and it illustrates their financial performance in the context of these measures.

→ **Refer to the "Capital management" section of this report for more information about RWA, LRD and our equity attribution framework**

→ **Refer to "Statistical measures" in this section for more information about RBC**

→ **Refer to the "Performance of our business divisions and Corporate Center – reported and adjusted" table in the "Group performance" section of this report for more information**

Key risks, risk measures and performance by business division and Corporate Center

Business divisions and Corporate Center	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Corporate Center
Key risks arising from business activities	Credit risk from lending against securities collateral and mortgages, and a small amount of derivatives trading activity Market risk from municipal securities and taxable fixed-income securities	Credit risk from retail business, mortgages, secured and unsecured corporate lending, and a small amount of derivatives trading activity Minimal contribution to market risk	Small amounts of credit and market risk	Credit risk from lending (take and hold as well as temporary loan underwriting activities), derivatives trading and securities financing Market risk from primary underwriting activities and secondary trading	Credit and market risk arising from management of the Group's balance sheet, capital, profit or loss and liquidity portfolios
Operational risk, which includes compliance and conduct risks, is an inevitable consequence of being in business, as losses can result from inadequate or failed internal processes, people and systems, or from external events. It can arise as a result of our past and current business activities across all business divisions and Corporate Center.					

Risk measures and performance

	31.12.19					
USD billion, as of or for the year ended	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Corporate Center	Group
Risk-weighted assets[1]	78.1	67.1	4.6	81.1	28.3	259.2
of which: credit and counterparty credit risk	*35.0*	*57.3*	*1.8*	*50.6*	*8.3*	*153.0*
of which: market risk	*0.8*	*0.0*	*0.0*	*4.6*	*1.1*	*6.6*
of which: operational risk	*35.9*	*7.7*	*2.0*	*22.5*	*9.4*	*77.5*
Leverage ratio denominator[1]	312.7	224.2	5.0	293.2	76.2	911.3
Risk-based capital[2]	6.6	4.9	0.4	7.0	16.1	35.0
Average attributed tangible equity[3]	11.5	8.4	0.4	12.2	15.1	47.6
Total assets	309.8	209.4	34.6	315.9	102.6	972.2
Operating profit / (loss) before tax (as reported)	3.4	1.4	0.5	0.8	(0.6)	5.6
Operating profit / (loss) before tax (adjusted)[4]	3.5	1.5	0.6	1.1	(0.5)	6.0

	31.12.18					
USD billion, as of or for the year ended	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Corporate Center	Group
Risk-weighted assets[1]	74.3	63.9	4.3	93.2	28.1	263.7
of which: credit and counterparty credit risk	*32.5*	*54.7*	*1.8*	*51.3*	*7.7*	*147.9*
of which: market risk	*1.3*	*0.0*	*0.0*	*16.8*	*1.9*	*20.0*
of which: operational risk	*36.0*	*7.7*	*2.0*	*22.5*	*9.4*	*77.6*
Leverage ratio denominator[1]	315.8	213.7	5.0	283.4	86.5	904.6
Risk-based capital[2]	5.0	4.5	0.4	6.6	16.7	33.3
Average attributed tangible equity[3]	11.2	8.0	0.4	12.9	13.3	45.9
Total assets	313.7	200.7	28.1	302.1	113.7	958.4
Operating profit / (loss) before tax (as reported)	3.3	1.8	0.4	1.5	(1.0)	6.0
Operating profit / (loss) before tax (adjusted)[4]	3.3	1.4	0.5	1.7	(0.9)	6.1

1 Refer to the "Capital management" section of this report for more information. 2 Refer to "Statistical measures" in this section for more information on risk-based capital. 3 Average attributed tangible equity of the business divisions and Corporate Center as of 31 December 2018 has been restated for the changes in equity attribution in the first quarter of 2019. Refer to the "Significant accounting and financial reporting changes" section in this report for more information. 4 Refer to the "Performance of our business divisions and Corporate Center – reported and adjusted" table in the "Group performance" section of this report for more information.

Risk categories

We categorize the risk exposures of our business divisions and Corporate Center as outlined in the table below.

Risk definitions

	Risk managed by	Independent oversight by	Captured in our risk appetite framework
Primary risks: the risks that our businesses may take to generate a return			
Audited | **Credit risk:** the risk of loss resulting from the failure of a client or counterparty to meet its contractual obligations toward UBS. This includes settlement risk and loan underwriting risk. ***Settlement risk:*** the risk of loss resulting from transactions that involve exchange of value (e.g., security versus cash) where we must deliver without first being able to determine with certainty that we will receive the countervalue. ***Loan underwriting risk:*** the risk of loss arising during the holding period of financing transactions that are intended for further distribution.	Business management	Risk Control	●
Audited | **Market risk (traded and non-traded):** the risk of loss resulting from adverse movements in market variables. Market variables include observable variables, such as interest rates, foreign exchange rates, equity prices, credit spreads and commodity (including precious metal) prices, and variables that may be unobservable or only indirectly observable, such as volatilities and correlations. Market risk includes issuer risk and investment risk. ***Issuer risk:*** the risk of loss from changes in fair value resulting from credit-related events affecting an issuer to which we are exposed through tradable securities or derivatives referencing the issuer. ***Investment risk:*** issuer risk associated with positions held as financial investments.	Business management and Group Treasury	Risk Control	●
Country risk: the risk of losses resulting from country-specific events. It includes transfer risk, whereby a country's authorities prevent or restrict the payment of an obligation, as well as systemic risk events arising from country-specific political or macroeconomic developments.	Business management	Risk Control	●
Consequential risks: the risks to which our businesses are exposed as a consequence of being in business			
Audited | **Liquidity risk:** the risk that the bank will not be able to efficiently meet both expected and unexpected current and forecast cash flows and collateral needs without affecting either daily operations or the financial condition of the firm.	Group Treasury	Risk Control	●
Audited | **Funding risk:** the risk that the bank will be unable, on an ongoing basis, to borrow funds in the market on an unsecured (or even secured) basis at an acceptable price to fund actual or proposed commitments, i.e., the risk that UBS's funding capacity is not sufficient to support the firm's current business and desired strategy.			
Structural foreign exchange risk: the risk of decreases in our capital due to changes in foreign exchange rates with an adverse translation effect on capital held in currencies other than the US dollar.	Group Treasury	Risk Control	●
Operational risk: the risk resulting from inadequate or failed internal processes, people and systems, or from external causes (deliberate, accidental or natural) that have an impact (either financial or non-financial) on UBS, its clients or the markets in which it operates. Events may be direct financial losses or indirect in the form of revenue forgone as a result of business suspension. They may also result in damage to our reputation and to our franchise that has longer-term financial consequences. ***Legal risk:*** the financial or reputational implications resulting from the risk of: (i) being held liable for a breach of applicable laws, rules or regulations; (ii) being held liable for a breach of contractual or other legal obligations; (iii) an inability or failure to enforce or protect contractual rights or non-contractual rights sufficiently to protect UBS's interests, including the risk of being party to a claim in respect of any of the above (and the risk of loss of attorney-client privilege in the context of any such claim); (iv) a failure to adequately develop, supervise and resource legal teams or adequately supervise external legal counsel advising on business, legal risk and other matters; and (v) a failure to adequately manage any potential, threatened and commenced litigation and legal proceedings, including civil, criminal, arbitration and regulatory proceedings, and/or litigation risk or any dispute or investigation that may lead to litigation or threat of any litigation. ***Conduct risk:*** the risk that the conduct of the firm or its individuals unfairly impacts clients or counterparties, undermines the integrity of the financial system or impairs effective competition to the detriment of consumers. ***Compliance risk:*** the risk incurred by the firm by not adhering to the applicable laws, rules and regulations, and our own internal standards. ***Financial crime risk:*** the risk that UBS fails to detect criminal activities, including internal and external theft and fraud, money laundering, bribery and corruption, fails to comply with sanctions and embargoes, or fails to report or respond to requests from relevant authorities related to these matters. ***Cybersecurity and information security risk:*** the risk of a material impact from an external or internal attack on our information systems with the purpose of data theft, fraud or denial of service. Cyberattacks are manifestations of a cyber threat into an act of aggression or criminal activity causing financial, regulatory or reputational harm or loss.	Business management Business management and Group Technology	Group Compliance, Regulatory & Governance (GCRG) Legal GCRG GCRG GCRG GCRG	●
Pension risk: the risk of a negative impact on our capital as a result of deteriorating funded status from decreases in the fair value of assets held in the defined benefit pension funds and/or changes in the value of defined benefit pension obligations due to changes in actuarial assumptions (e.g., discount rate, life expectancy, rate of pension increase) and/or changes to plan designs.	Human Resources	Risk Control and Finance	●
Environmental and social risk: the risk that UBS supports clients, or sources from suppliers, who cause or contribute to severe environmental damage or human rights infringements. Environmental and social risks can also arise if UBS's operational activities and its employees (or contractors working on behalf of UBS) fail to operate within relevant environmental and human rights regulations. Environmental and social risks (including human rights and climate-related risks) may result in adverse financial and reputation impacts for UBS. → **Refer to the "Management of environmental and social risks" section of the Sustainability Report 2019**	Business management	Risk Control	●
Model risk: the risk of adverse consequences via financial loss or non-financial impact (e.g., poor business and/or strategic decision-making, or damage to the firm's reputation) resulting from decisions based on incorrect or misused model outputs and reports. Model risk may result from a number of sources: inputs, methodology, implementation or use.	Model owner	Risk Control	●
Business risks: the risks arising from the commercial, strategic and economic environment in which our businesses operate			
Business risk: the potential negative impact on earnings from lower-than-expected business volumes and/or margins, to the extent they are not offset by a decrease in expenses.	Business management	Finance	●
Reputational risks			
Reputational risk: the risk of damage to our reputation from the point of view of our stakeholders, such as clients, shareholders, staff and the general public.	All businesses and functions	All control functions	

Top and emerging risks

The top and emerging risks disclosed below reflect those that we currently think have the potential to materialize within one year and which could significantly affect the Group. Investors should also carefully consider all information set out in the "Risk factors" section of this report, where we discuss these and other material risks that we consider could have an effect on our ability to execute our strategy and may affect our business activities, financial condition, results of operations and business prospects.

- We are exposed to a number of macroeconomic issues as well as general market conditions. As noted in "Market and macroeconomic risks" in the "Risk factors" section of this report, these external pressures may have a significant adverse effect on our business activities and related financial results, primarily through reduced margins and revenues, asset impairments and other valuation adjustments. Accordingly, these macroeconomic factors are considered in the development of stress testing scenarios for our ongoing risk management activities.
- The outbreak of Covid-19 in China and its subsequent spread to other countries is likely to have at least a short-term adverse effect on economic activity in China and other affected countries, with a collateral impact on the global economy. A significant rise in the number of Covid-19 infections, infections in a wide range of countries and regions, or a prolongation of the outbreak, could increase the adverse economic effects. These adverse effects may materialize through adverse market performance, increased credit risk or negative effects on operational resilience.
- We are exposed to substantial changes in the regulation of our businesses that could have a material adverse effect on our business, as discussed in the "Regulatory and legal developments" section of this report and in "Regulatory and legal risks" in the "Risk factors" section of this report.
- As a global financial services firm we are subject to many different legal, tax and regulatory regimes and extensive regulatory oversight. We are exposed to significant liability risk and we are subject to various claims, disputes, legal proceedings and government investigations, as noted in "Regulatory and legal risks" in the "Risk factors" section of this report. Information about litigation, regulatory and similar matters we consider significant is disclosed in "Note 21 Provisions and contingent liabilities" in the "Consolidated financial statements" section of this report.
- One of the most critical risks facing the broader industry is the inability to keep pace with evolving cyber threats, such as data theft and data leakage, disruption of service and cyber fraud, all of which have the potential to significantly affect our business. Additionally, as a result of the operational complexity of all our businesses, we are continually exposed to operational resilience scenarios such as process error, failed execution, system failures and fraud.
- Conduct risks are inherent in our businesses. Achieving fair outcomes for our clients, upholding market integrity and cultivating the highest standards of employee conduct are of critical importance to the firm. Management of conduct risks is an integral part of our operational risk framework.
- Financial crime, including money laundering, terrorist financing, sanctions violation, fraud, bribery and corruption, presents significant risk. Heightened regulatory expectations and attention require investment in people and systems, while emerging technologies and changing geopolitical risks further increase the complexity of identifying and preventing financial crime. Refer to "Operational risk" in this section and "Strategy, management and operations risks" in the "Risk factors" section of this report for more information.

Risk governance

Our risk governance framework operates along three lines of defense.

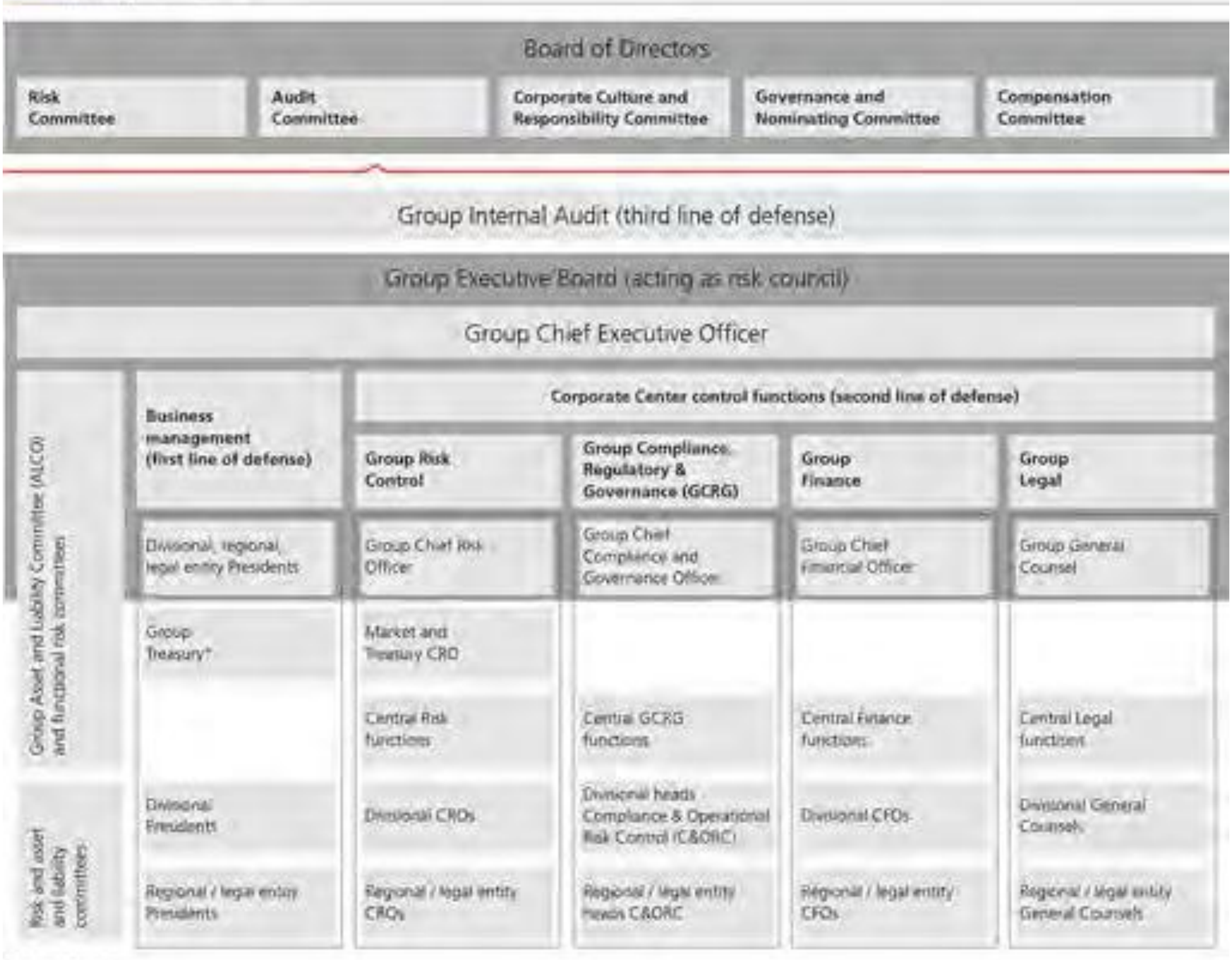
Our first line of defense, business management, owns its risk exposures and is required to maintain effective processes and systems to manage its risks, including robust and comprehensive internal controls and documented procedures. Business management has appropriate supervisory controls and review processes in place, which are designed to identify control weaknesses and inadequate processes.

Our second line of defense is formed by the control functions, which are separate from the business and report directly to the Group CEO. Control functions provide independent oversight of risks, including setting risk appetite and protecting against non-compliance with applicable laws and regulations.

Our third line of defense, Group Internal Audit, reports to the Audit Committee of the Board of Directors. This function evaluates the overall effectiveness of governance, risk management and the control environment, including the assessment of how the first and second lines of defense meet their objectives.

The key roles and responsibilities for risk management and control are illustrated in the following chart and described on the following pages.

Audited | **Risk governance**



* Part of Group Finance

Audited | The *Board of Directors* (the BoD) is responsible for approving the risk management and control framework of the Group, including the overall risk appetite of the Group and business divisions. The BoD is supported by the BoD Risk Committee, which monitors and oversees the Group's risk profile and the implementation of the risk framework as approved by the BoD, and approves the Group's risk appetite methodology. The Corporate Culture and Responsibility Committee supports the BoD in fulfilling its duty to safeguard and advance the Group's reputation for responsible and sustainable conduct. It reviews stakeholder concerns and expectations pertaining to UBS's societal contribution and corporate culture. The Audit Committee supports the BoD in fulfilling its oversight duty relating to financial reporting and internal controls over financial reporting, the effectiveness of the external and internal audit functions, and the effectiveness of whistleblowing procedures.

The *Group Executive Board* (the GEB) has overall responsibility for establishing and implementing risk management and control in the Group. It manages the risk profile of the Group as a whole.

The *Group Chief Executive Officer* (the Group CEO) has responsibility and accountability for the management and performance of the Group, has risk authority over transactions, positions and exposures, and allocates risk limits approved by the BoD within the business divisions and Corporate Center.

The *business division Presidents* are responsible for the success, risks, results and value of their business division. This includes controlling and administering the dedicated financial resources and risk appetite of the business division.

The *regional Presidents* facilitate the implementation of UBS's strategy in their region, and have the mandate to inform the GEB of any activities and issues that may give rise to actual or potentially material regulatory or reputational concerns.

The *Group Chief Risk Officer* (the Group CRO) is responsible for the development of the Group's risk management and control framework (including risk principles and risk appetite) for credit, market, country, liquidity, funding, model, and environmental and social risks. This includes risk measurement and aggregation, portfolio controls and risk reporting. The Group CRO is responsible for setting risk limits and approving credit and market risk transactions and exposures. Risk Control is also the central function for model risk management and control for all models used in the firm. The risk control process is supported by a framework of policies and authorities. The *business division CROs* are responsible for the implementation and enforcement of the risk management and control framework within their business division. The *regional Chief Risk Officers* provide independent oversight of risks within their region.

The *Group Chief Compliance and Governance Officer* is responsible for ensuring that all operational risks, including compliance and conduct risks, as well as cyber and information security risks, are identified, owned and managed according to the firm's risk appetite, supported by an effective control framework.

The *Group Chief Financial Officer* (the Group CFO) is responsible for transparency in and assessing the financial performance of the Group and the business divisions, and for managing the Group's financial accounting, controlling, forecasting, planning and reporting processes in line with regulatory and financial reporting requirements, corporate governance standards and global best practice to maintain high quality and timeliness. Additional responsibilities include managing UBS's tax affairs, as well as treasury and capital management, including funding and liquidity risk and UBS's regulatory capital ratios.

The *Group General Counsel* (the Group GC) is responsible for managing the Group's legal affairs and ensuring effective and timely assessment of legal matters impacting the Group or its businesses, and for the management and reporting of all litigation matters.

Group Internal Audit (GIA) independently assesses the effectiveness of processes to define strategy and risk appetite, as well as overall adherence to the approved strategy and the effectiveness of governance processes and of risk management at Group, business division and regional levels, including compliance with legal and regulatory requirements, as well as with internal policies, constitutional documents and contracts. The Head GIA reports to the Chairman of the BoD and, in addition, GIA has a functional reporting line to the BoD Audit Committee.

Some of the above roles and responsibilities are replicated for certain significant legal entities of the Group. The *legal entity risk officers* are responsible for independent oversight and control of primary and consequential risks for certain significant legal entities of the Group as part of the legal entity control framework, which complements the Group's risk management and control framework. ▲

Risk appetite framework

We have a defined Group level risk appetite, covering all financial and non-financial risk types, via a complementary set of qualitative and quantitative risk appetite statements. This is reviewed and recalibrated annually and presented to the BoD for approval.

Our risk appetite is defined at the aggregate Group level and reflects the types of risk that we are willing to accept or intend to avoid. It is established via a complementary set of qualitative and quantitative risk appetite statements defined at a firm-wide level and is embedded throughout our business divisions and legal entities by means of Group, business division and legal entity policies, limits and authorities. UBS is the largest truly global wealth manager and a leading personal and corporate bank in Switzerland, with focused investment bank and asset management divisions. We are subject to consolidated supervision by FINMA and related ordinances, which impose, among other requirements, minimum standards for capital, liquidity, risk concentration and internal organization. Our risk appetite is reviewed and recalibrated annually with an aim to ensure that risk-taking at every level of the organization is in line with our strategic priorities, our capital and liquidity plans, our pillars, principles and behaviors, as well as minimum regulatory requirements. The risk appetite statements are a critical foundation for maintaining a robust risk culture throughout our organization. The "Risk appetite framework" chart below shows the key elements of the framework. These elements are described in more detail in this section.

Qualitative statements aim to ensure that we maintain the desired risk culture. Quantitative risk appetite objectives are designed to enhance the Group's resilience against the effect of potential severe adverse economic or geopolitical events. These risk appetite objectives cover the Group's minimum capital and leverage ratios, its solvency, earnings, liquidity and funding, and are subject to periodic review, including as part of the annual business planning process.

These objectives are complemented by operational risk appetite objectives, which are established for each of our operational risk categories, such as market conduct, theft, fraud, data confidentiality and technology risks. A standardized financial firm-wide operational risk appetite has been established at the Group and business division level. Operational risk events that exceed predetermined risk tolerances, expressed as percentages of the Group's operating income, must be escalated as per the firm-wide escalation framework to the respective business division President or higher, as appropriate.

The quantitative risk appetite objectives are supported by a comprehensive suite of risk limits set at a portfolio level. These may apply across the Group, within a business division or business, at legal entity level, or to an asset class. These additional quantitative controls are typically bottom-up and are designed to monitor specific portfolios and to identify potential risk concentrations.

Risk appetite framework

Risk reports containing aggregated measures of risk across products and businesses provide insight into the amounts, types, and sensitivities of the various risks in our portfolios and are intended to ensure compliance with defined limits. Risk officers, senior management and the BoD use this information to understand our risk profile and the performance of the portfolios.

The status of risk appetite objectives is evaluated each month and reported to the BoD and the GEB. Our risk appetite may change over time. Therefore, portfolio limits and associated approval authorities are subject to periodic reviews and changes, particularly in the context of our annual business planning process.

Our risk appetite framework is governed by a single overarching policy and conforms to the Financial Stability Board's Principles for an Effective Risk Appetite Framework published in 2013.

Risk principles and risk culture

We focus on maintaining a strong risk culture, which is a prerequisite for success in today's highly complex operating environment and a source of sustainable competitive advantage. By placing prudent and disciplined risk-taking at the center of every decision, we want to achieve our goals of delivering unrivaled client satisfaction, creating long-term value for stakeholders, and making UBS one of the most attractive companies to work for in the world.

Our risk appetite framework combines all the important elements of our risk culture, expressed in our *Pillars, Principles and Behaviors*, our risk management and control principles, our Code of Conduct and Ethics, and our Total Reward Principles. Together, these aim to align the decisions we make with the Group's strategy, principles and risk appetite. They help provide a solid foundation for promoting risk awareness, leading to appropriate risk-taking and the establishment of robust risk management and control processes. These principles are supported by a range of initiatives covering employees at all levels. This includes the *UBS House View on Leadership*, which is a set of explicit expectations for leaders that establishes consistent leadership standards across UBS. These initiatives also include our principles of good supervision, which establish clear expectations of managers and employees with respect to supervisory responsibilities, specifically: to take responsibility; to know and organize their business; to know their employees and what they do; to create a good risk culture; and to respond to and resolve issues.

→ **Refer to the foldout pages of this report for more information about our Pillars, Principles and Behaviors**
→ **Refer to the Code of Conduct and Ethics of UBS at *www.ubs.com/code* for more information**

Risk management and control principles

Protection of financial strength	Protection of reputation	Business management accountability	Independent controls	Risk disclosure
Protecting UBS's financial strength by controlling our risk exposure and avoiding potential risk concentrations at individual exposure levels, at specific portfolio levels and at an aggregate firm-wide level across all risk types	Protecting our reputation through a sound risk culture characterized by a holistic and integrated view of risk, performance and reward, and through full compliance with our standards and principles, particularly our Code of Conduct and Ethics	Maintaining management accountability, whereby business management, as opposed to Risk Control, owns all risks assumed throughout the Group and is responsible for the continuous and active management of all risk exposures to provide for balanced risk and return	Independent control functions that monitor the effectiveness of the businesses' risk management and oversee risk-taking activities	Disclosure of risks to senior management, the BoD, investors, regulators, credit rating agencies and other stakeholders with an appropriate level of comprehensiveness and transparency

To support an environment where our employees are comfortable in raising concerns, we have whistleblowing policies and procedures in place. These offer multiple channels through which individuals may, either openly or anonymously, escalate suspected breaches of laws, regulations, rules and other legal requirements, our Code of Conduct and Ethics, policies, or relevant professional standards. Our program is designed to ensure that whistleblowing concerns are investigated and that appropriate and consistent action is taken. We are committed to ensuring that appropriate training for and communication to staff and legal entity representatives are made available on an ongoing basis, including with regard to new regulatory requirements.

We also have mandatory training programs covering a range of compliance and risk-related topics, including anti-money laundering and operational risk. In addition, specialized training is provided for employees depending on their specific roles and responsibilities, such as credit risk and market risk training for those working in trading areas. Failure to satisfactorily complete mandatory training sessions within the given deadline has consequences, including disciplinary action. Our operational risk framework, incorporating the conduct risk framework, aims to identify and manage financial, regulatory, and reputational risks, together with risks to clients and to markets.

Additionally, we want to be the financial provider of choice for clients wishing to direct capital toward investments that support the Sustainable Development Goals and the transition to a low-carbon economy. Our comprehensive environmental and social risk framework governs client and supplier relationships, applies firm-wide to all activities, meets the highest industry standards and is integrated in management practices and control principles. We also seek to protect our assets from climate change risks by limiting our risk appetite for carbon-related assets.

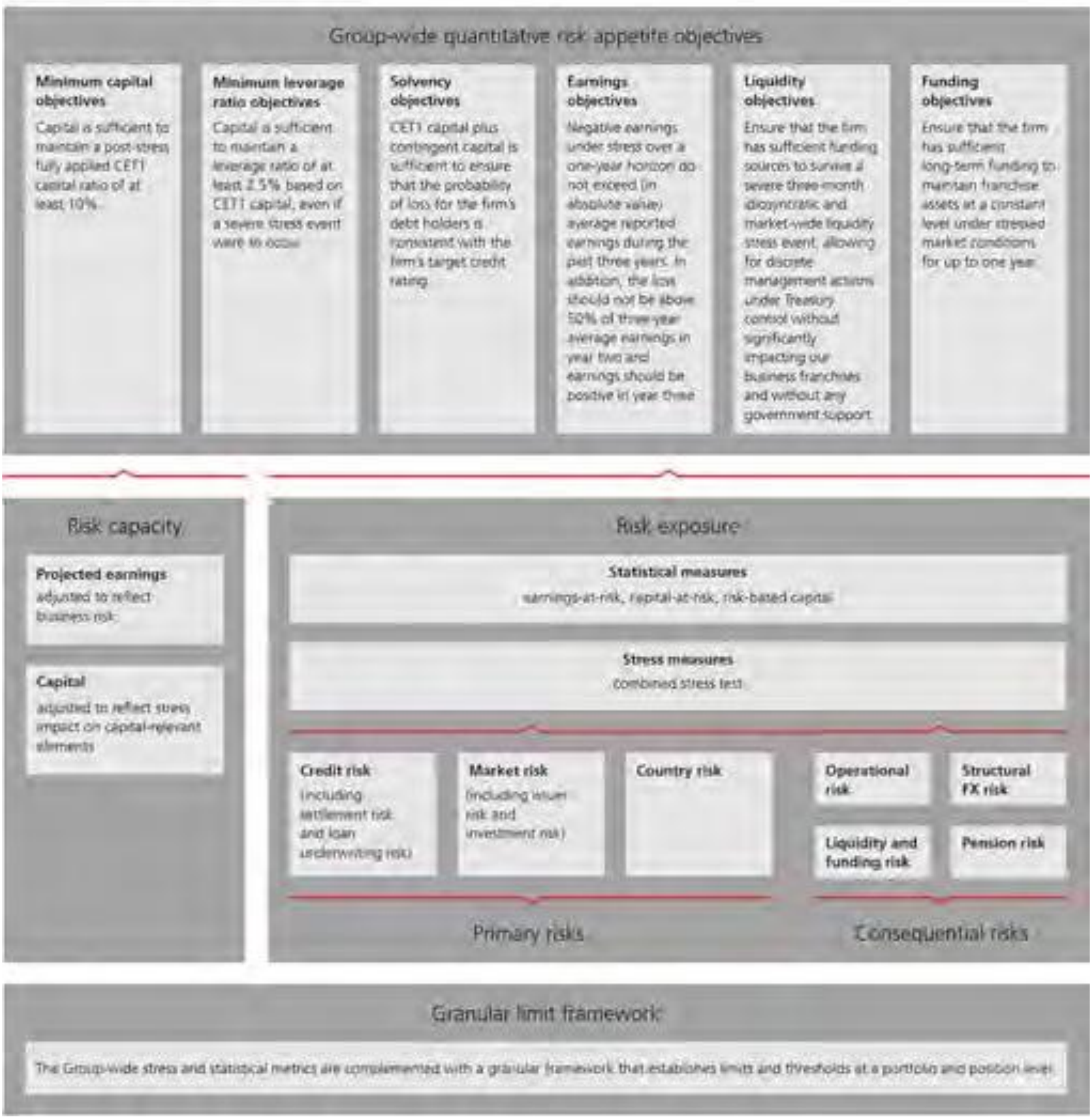
Quantitative risk appetite objectives

Through a set of quantitative risk appetite objectives, we aim to ensure that our aggregate risk exposure remains within our desired risk capacity, based on our capital and business plans. The specific definition of risk capacity for each objective seeks to ensure that we have sufficient capital, earnings, funding and liquidity to protect our business franchises and exceed minimum regulatory requirements under a severe stress event. The risk appetite objectives are evaluated as part of the annual business planning process, and are approved by the BoD. The comparison of risk exposure with risk capacity is a key consideration in management decisions on potential adjustments to the business strategy and the risk profile of the Group.

Through the annual business planning process, we review the business strategy of the firm, assess the risk profile as a result of our operations and activities, and stress-test our risk profile. We make use of both scenario-based stress tests and statistical risk measurement techniques to assess the effect of a severe stress event at a firm-wide level. These complementary frameworks capture exposures to all material primary and consequential risks, as well as business risks across our business divisions and Corporate Center.

→ **Refer to "Risk measurement" in this section for more information about our stress testing and statistical frameworks**

2019 quantitative risk appetite objectives



Our risk capacity is underpinned by our performance targets and capital guidance as per our latest three-year strategic plan. When determining our risk capacity in case of a severe stress event, we adjust projected earnings from the strategic plan for business risk to reflect lower expected earnings and lower expenses, such as the reversal of variable compensation accruals. We also adjust our capital to take into account the effect of stress on deferred tax assets, pension plan assets and liabilities, and accruals for capital returns to shareholders.

The chart on the previous page provides an overview of our quantitative risk appetite objectives during 2019. For 2020, we have adjusted the one-year firm-wide minimum post-stress CET1 capital and leverage ratio objectives from 10% and 2.5% to 9% and 2.7%, respectively. The new objectives account for the various ongoing enhancements to stress measures, many of which lead to higher results for the same amount of underlying risk. We have also introduced three-year minimum post-stress capital and leverage ratio objectives of 7.5% and 2.2%, respectively, to better align with regulatory scenarios.

Risk appetite objectives define the aggregate risk exposure acceptable at the firm-wide level, given our risk capacity. The maximum acceptable risk exposure is supported by a comprehensive suite of risk limits, triggers and targets, which are cascaded to businesses and portfolios. These limits, triggers and targets are intended to ensure that our risks in aggregate remain under the maximum acceptable level of risk exposure.

Risk appetite statements at the business division level are derived from the firm-wide risk appetite. They may also comprise objectives specific to the division, related to the specific activities and risks in that division. Risk appetite statements are also set for certain legal entities. These must be consistent with the firm-wide risk appetite framework and approved in accordance with the legal entity's and the Group's regulations. Differences may exist that reflect the specific nature, size, complexity and regulations applicable to the relevant legal entity.

Risk appetite following adoption of IFRS 9

The introduction of the expected credit loss (ECL) framework under IFRS 9 in 2018 fundamentally changed how credit risk arising from loans, loan commitments, guarantees and certain revocable facilities is accounted for. The ECL framework may result in greater volatility in credit loss expense as ECL changes in response to developments in the credit cycle and composition of our loan portfolio. The effect may be more pronounced in a deteriorating economic environment.

The effect that the requirement for accelerated recognition of credit losses has on our risk exposure in stressed conditions has been accounted for in our estimations. We expect to gain more insights into the behavior of ECLs once IFRS 9 has been in place for a longer period and under changing economic conditions, and may adjust our risk exposure further in the future.

Based on the current information and the effect that the IFRS 9 ECL framework has on our solvency objectives, we have not changed either our risk appetite and management practices or our strategy toward pricing and structuring of transactions following the adoption of IFRS 9.

→ **Refer to "Note 1 Summary of significant accounting policies" in the "Consolidated financial statements" section of this report for more information about our accounting policy for allowances and provisions for ECL**

→ **Refer to "Note 23 Expected credit loss measurement" in the "Consolidated financial statements" section of this report for more information about ECL measurement**

→ **Refer to "Credit risk" in this section for more information about the ECL methodology under IFRS 9**

Internal risk reporting

Comprehensive and transparent reporting of risks is central to the control and oversight responsibilities set out in our risk governance framework and is a requirement of our risk management and control principles. Accordingly, risks are reported at a frequency and to a level of detail commensurate with the extent and variability of the risk and the needs of the various governance bodies, regulators and risk authority holders.

On a monthly basis, the Group Risk Report provides a detailed qualitative and quantitative overview of developments in primary and consequential risks for the business divisions and Corporate Center, along with aggregate views of risks at the firm-wide level, including the status of our risk appetite objectives and results of firm-wide stress testing. The Group Risk Report is distributed internally to the BoD Risk Committee and the GEB, and to senior members of Risk Control, Group Internal Audit, Finance, and Legal. Additionally, an extract of the Group Risk Report is provided to the BoD. Risk reports are also produced for our significant Group entities (entities that are subject to enhanced standards of corporate governance).

Granular divisional risk reports are provided to the respective business division Chief Risk Officers and the business division Presidents. This monthly reporting is supplemented with a suite of daily or weekly reports at various levels of granularity, covering market and credit risks for the business divisions and Corporate Center to enable risk officers and senior management to monitor and control the Group's risk profile.

Our internal risk reporting, which covers primary and consequential risks, is supported by risk data and measurement systems that are also used for external disclosure and regulatory reporting. Dedicated units within Risk Control assume responsibility for measurement, analysis and reporting of risk and for overseeing the quality and integrity of risk-related data. Our risk data and measurement systems are subject to periodic review by Group Internal Audit following a risk-based audit approach.

Risk measurement

Audited | We apply a variety of methodologies and measurements to quantify the risks of our portfolios and potential risk concentrations. Risks that are not fully reflected within standard measures are subject to additional controls, which may include preapproval of specific transactions and the application of specific restrictions. Models to quantify risk are generally developed by dedicated units within control functions and are subject to independent validation. ▲

Models must be approved and are regularly reviewed in accordance with regulatory requirements as well as internal policies to test whether they perform as expected, produce results comparable with actual events and values, and reflect best-in-practice approaches and recent academic developments. Our reviews assess whether models are performing satisfactorily, whether additional analysis is required and whether models need to be recalibrated or redeveloped. Results and conclusions are presented to the relevant governance body and, as required, to regulators.

The ongoing process of assessing model quality and performance in the production environment comprises two components: model validation, in which Model Risk Management & Control (MRMC) independently assesses a model's fitness for purpose; and model confirmation, the regular process of confirming the accuracy and appropriateness of the model output and its application, carried out by the model developers and reviewed by MRMC.

→ **Refer to "Credit risk," "Market risk" and "Operational risk" in this section for more information about model confirmation procedures**

Stress testing

We perform stress testing to estimate the loss that could result from extreme, yet plausible macroeconomic and geopolitical stress events. This enables us to identify, better understand and manage our potential vulnerabilities and risk concentrations. Stress testing plays a key role in our limits framework at the firm-wide, business division, legal entity and portfolio levels. Stress test results are regularly reported to the BoD, the BoD Risk Committee and the GEB. As described in "Risk appetite framework" above, stress testing, along with statistical loss measures, plays a central role in our risk appetite and business planning processes.

Our stress testing framework incorporates three pillars: (i) combined stress tests; (ii) a comprehensive range of portfolio- and risk type-specific stress tests; and (iii) reverse stress testing.

Our *combined stress test* (CST) framework is scenario-based and aims to quantify overall firm-wide losses that could result from a number of potential global systemic events. The framework captures all material primary and consequential risks, as well as business risks, as indicated in "Risk categories" above. Scenarios are forward-looking and encompass macroeconomic and geopolitical stress events calibrated to different levels of severity. We implement each scenario through the expected evolution of market indicators and economic variables under that scenario. We then assess the resulting effect on our primary, consequential and business risks to estimate the overall loss and capital implications were the scenario to occur. At least once a year, the BoD Risk Committee approves the most relevant scenario, known as the binding scenario, to be used as the main scenario for regular CST reporting and for monitoring risk exposure against our minimum capital, earnings and leverage ratio objectives in our risk appetite framework. Results are reported to the BoD Risk Committee, the BoD, the GEB and FINMA on a monthly basis.

We provide detailed stress loss analyses to FINMA and the regulators of our legal entities in accordance with their requirements. For example, in addition to CST, we perform Loss Potential Analysis (LPA) as prescribed by FINMA, Comprehensive Capital Analysis and Review (CCAR) for Americas Holding LLC as prescribed by the US Federal Reserve Board, and Comprehensive Assessment Stress Test for UBS Europe SE as prescribed by the European Central Bank.

The Enterprise-wide Stress Committee (the ESC) is responsible for ensuring the consistency and adequacy of the assumptions and scenarios used for our firm-wide stress measures. As part of these responsibilities, the ESC seeks to ensure that the suite of stress scenarios adequately reflects current and potential developments in the macroeconomic and geopolitical environment, our current and planned business activities, and actual or potential risk concentrations and vulnerabilities in our portfolios. The ESC meets at least quarterly and is comprised of Group, business division and legal entity representatives of Risk Control. In executing its responsibilities, the ESC considers input from the Think Tank, which is a panel of senior representatives from the business divisions, Risk Control and economic research, and which meets quarterly to review the current and possible future market environment in order to identify potential stress scenarios that could materially affect the Group's profitability. This results in a range of internal stress scenarios that are developed and evolve over time, separate from the scenarios mandated by FINMA.

Each scenario captures a wide range of macroeconomic variables. These include gross domestic product (GDP), equity prices, interest rates, foreign exchange rates, commodity prices, property prices and unemployment. We use assumed changes in these macroeconomic and market variables in each scenario to stress the key risk drivers of our portfolios. For example, lower GDP growth and rising interest rates may reduce the income of clients to whom we have lent money, which leads to changes in the credit risk parameters for probability of default, loss given default and exposure at default, and results in higher predicted credit losses within the stress scenario. We also capture the business risk resulting from lower fee, interest and trading income net of lower expenses. These effects are measured across all material risk types and all businesses to calculate the aggregate estimated effect of the scenario on profit or loss, other comprehensive income, RWA, LRD and, ultimately, our capital and leverage ratios. The assumed changes in macroeconomic variables are updated periodically to account for changes in the current and possible future market environment.

Through 2019, the binding scenario for CST was the internal *Severe Eurozone Crisis scenario*. This scenario is characterized by a crisis in the eurozone; a lack of confidence in the trajectory of several peripheral European economies leading to a sudden spike in their bond yields, eventually resulting in their loss of market access. As Greece leaves the eurozone, emergency measures, including capital controls, bailouts and debt restructurings, are required. In the ensuing global slowdown and market turbulence, China suffers a hard landing, which further weighs on global growth. Central banks in major developed economies with policy room cut rates back to zero in an attempt to stimulate growth and restore market confidence; however, this fails to avert a severe global recession.

The CST risk exposure was broadly stable over the year with most of the month-on-month variability arising primarily from changes in volumes of temporary loan underwriting exposure in the Investment Bank.

As part of the CST framework, we routinely monitored four additional stress scenarios throughout 2019.

– The *Failure of a Major Financial Institution scenario* represents renewed financial market turmoil reflecting the failure of a major global financial institution, leading to prolonged financial deleveraging and dramatically plunging activity around the globe.
– The *US Monetary Crisis scenario* represents a loss of confidence in the US, which leads to international portfolio repositioning out of US dollar-denominated assets, sparking an abrupt and substantial US dollar sell-off. The US is pushed back into recession, other industrialized countries replicate this pattern and inflationary concerns lead to an overall higher interest rate level.
– The *Global Depression scenario* represents a severe and prolonged eurozone crisis in which several peripheral countries default and exit the eurozone, and advanced economies are pulled into a prolonged period of economic stagnation.
– The *Global Interest Rate Steepening scenario* represents a sudden shift in market sentiment, causing a disorderly sell-off in long-dated bonds and a rapid steepening of the yield curve, exacerbated by a lack of liquidity in financial markets. This in turn triggers a sovereign crisis in Japan and a global recession.

We have updated the binding stress scenario in our CST framework for 2020 and renamed it *Global Crisis scenario*. The scenario maintains a eurozone crisis at its core, but has greater focus on risks threatening the global economy, such as protectionism. In addition, central banks in the eurozone, Switzerland and Japan are assumed to push policy rates further into negative territory to provide more monetary stimulus. A China hard landing remains a feature of the scenario.

Portfolio-specific stress tests are measures that are tailored to the risks of specific portfolios. Our portfolio stress loss measures are derived from data on past events, but also include forward-looking elements. For example, we derive the expected market movements within our liquidity-adjusted stress metric using a combination of historical market behavior, based on an analysis of historical events, and forward-looking analysis, including consideration of defined scenarios that are not modeled on any historical events. Results of portfolio-specific stress tests may be subject to limits to explicitly control risk-taking, or may be monitored without limits to identify vulnerabilities.

Reverse stress testing starts from a defined stress outcome (e.g., a specified loss amount, reputational damage, a liquidity shortfall or a breach of regulatory capital ratios) and works backward to identify the economic or financial scenarios that could result in such an outcome. As such, reverse stress testing is intended to complement scenario-based stress tests by assuming "what if" outcomes that could extend beyond the range normally considered, and thereby potentially challenge assumptions regarding severity and plausibility.

Additionally, we routinely analyze the effect of increases or decreases in interest rates and changes in the structure of yield curves.

Moreover, Group Treasury performs stress testing to determine the optimum asset and liability structure that allows us to maintain an appropriately balanced liquidity and funding position under various scenarios. These scenarios differ from those outlined above, because they are focused on specific situations that could generate liquidity and funding stress, as opposed to the scenarios used in the CST framework, which focus on the effect on profit or loss and capital.

→ **Refer to "Credit risk" and "Market risk" in this section for more information about stress loss measures**

→ **Refer to the "Treasury management" section of this report for more information about stress testing**

→ **Refer to "Our stated capital returns objective is based, in part, on capital ratios that are subject to regulatory change and may fluctuate significantly" in the "Risk factors" section of this report for more information**

Statistical measures

In addition to our scenario-based CST measures, we employ a statistical stress framework that allows us to calculate and aggregate risks using statistical techniques to derive stress events at chosen confidence levels.

We use this framework to derive a distribution of potential earnings based on historically observed market changes in combination with the firm's actual risk exposures, considering effects on both income and expenses. From this, we determine earnings-at-risk (EaR), which measures the potential shortfall in earnings (i.e., the deviation from forecast earnings) at a 95% confidence level and is evaluated over a one-year horizon. EaR is used for the assessment of the earnings objectives in our risk appetite framework.

We extend the EaR measure by incorporating the effects of gains and losses recognized through other comprehensive income, to derive a distribution of potential effects of stress events on CET1 capital. From this distribution, we derive our capital-at-risk (CaR) buffer measure at a 95% confidence level for the assessment of our capital and leverage ratio risk appetite objectives, and we derive our CaR solvency measure at a 99.9% confidence level for the assessment of our solvency risk appetite objective.

We also use the CaR solvency measure as the basis for deriving the contributions of business divisions and Corporate Center to risk-based capital (RBC), which is a component of our equity attribution framework. RBC measures the potential capital impairment from an extreme stress event at a 99.9% confidence level to estimate the capital required to absorb unexpected loss while remaining able to fully repay creditors.

→ **Refer to the "Capital management" section of this report for more information about the equity attribution framework**

Portfolio and position limits

The firm-wide stress and statistical metrics are complemented by more granular portfolio and position limits, triggers and targets. The combination of these measures provides a comprehensive control framework that is applied to our business divisions and Corporate Center, as well as the significant legal entities, as relevant to the key risks arising from their businesses.

We apply limits to a variety of exposures at the portfolio level, using statistical and stress-based measures, such as value-at-risk, liquidity-adjusted stress, loan underwriting limits, economic value sensitivity and portfolio default simulations for our loan books. These are complemented with a set of controls for net interest income sensitivity, mark-to-market losses on available-for-sale portfolios, and the effect of foreign exchange movements on capital and capital ratios.

Portfolio measures are supplemented with position-level controls. Risk measures for position controls are based on market risk sensitivities and counterparty-level credit risk exposures. Market risk sensitivities include sensitivities to changes in general market risk factors, such as equity indices, foreign exchange rates and interest rates, and sensitivities to issuer-specific factors, such as changes in an issuer's credit spread or default risk. We monitor a significant number of market risk controls for the Investment Bank and Corporate Center on a daily basis. Counterparty measures capture the current and potential future exposure to an individual counterparty, taking into account collateral and legally enforceable netting agreements.

→ **Refer to "Credit risk" in this section for more information about counterparty limits**

Risk concentrations

Audited | A risk concentration exists where (i) a position is affected by changes in a group of correlated factors, or a group of positions are affected by changes in the same risk factor or a group of correlated factors, and (ii) the exposure could, in the event of large but plausible adverse developments, result in significant losses. The categories in which risk concentrations may occur include counterparties, industries, legal entities, countries or geographical regions, products and businesses.

The identification of risk concentrations requires judgment, as potential future developments cannot be accurately predicted and may vary from period to period. In determining whether we have a risk concentration, we consider a number of elements, both individually and collectively. These elements include the shared characteristics of the positions and our counterparties, the size of the position or group of positions, the sensitivity of the position or group of positions to changes in risk factors and the volatility, and the correlations of those factors. Also important in our assessment is the liquidity of the markets where the positions are traded, as well as the availability and effectiveness of hedges or other potential risk-mitigating factors. The value of a hedging instrument may not always move in line with the position being hedged, and this mismatch is referred to as basis risk. In addition, operational risk concentrations may result from a single issue that is large on its own (i.e., has the potential to produce a single high-impact loss or a number of losses that, aggregated together, are high-impact) or related issues that may link together to create a high impact.

Risk concentrations are subject to increased oversight by Risk Control and are assessed to determine whether they should be reduced or mitigated, depending on the available means to do so. It is possible that material losses could occur on asset classes, positions and hedges, particularly if the correlations that emerge in a stressed environment differ markedly from those envisaged by our risk models. ▲

→ **Refer to "Credit risk" and "Market risk" in this section for more information about the compositions of our portfolios**

→ **Refer to the "Risk factors" section of this report for more information**

Credit risk

Key developments

Total net credit loss expenses were USD 78 million in 2019, reflecting net credit loss expenses of USD 100 million related to credit-impaired (stage 3) positions, mainly in Personal & Corporate Banking and to a lesser extent in the Investment Bank and Global Wealth Management, partly offset by USD 22 million of net releases in expected credit loss (ECL) expense allowances and provisions from stage 1 and 2 positions.

→ **Refer to "Note 1 Summary of significant accounting policies," "Note 10 Financial assets at amortized cost and other positions in scope of expected credit loss measurement" and "Note 23 Expected credit loss measurement" in the "Consolidated financial statements" section of this report for more information about IFRS 9 and ECLs**

Our Swiss lending portfolios, which account for approximately half of our loan exposure, continued to perform well. We aim to manage our Swiss lending portfolios prudently and remain watchful for signs of deterioration in the Swiss economy that could affect our counterparties.

Within the Investment Bank, our leveraged loan underwriting business's overall ability to distribute risk remained sound.

Audited | Main sources of credit risk

- A substantial portion of our lending exposure arises from our Swiss domestic business, which offers mortgage loans, secured mainly by residential properties and income-producing real estate, as well as corporate loans, and therefore depends on the performance of the Swiss economy.
- Within the Investment Bank, our credit exposure arises mainly from lending, derivatives trading and securities financing. Derivatives trading and securities financing are predominantly investment grade. Loan underwriting activity can be lower rated and gives rise to concentrated exposure of a temporary nature.
- Our wealth management businesses predominantly conduct securities-based (Lombard) lending and mortgage lending.
- Credit risk within Non-core and Legacy Portfolio in Corporate Center relates to derivative transactions, predominantly carried out on a cash-collateralized basis, and securitized positions. ▲

Audited | Overview of measurement, monitoring and management techniques

- Credit risk arising from transactions with individual counterparties is measured based on our estimates of probability of default, exposure at default and loss given default. Limits are established for individual counterparties and groups of related counterparties covering banking and traded products, as well as settlement amounts. Risk control authorities are approved by the Board of Directors, and are delegated to the Group Chief Executive Officer, the Group Chief Risk Officer and divisional Chief Risk Officers based on risk exposure amounts, internal credit rating and potential loss.
- Limits apply not only to the current outstanding amount, but also to contingent commitments and the potential future exposure of traded products.
- For the Investment Bank, our monitoring, measurement and limit framework distinguishes between exposures intended to be held to maturity (take-and-hold exposures) and those that are intended to be held for a short term, pending distribution or risk transfer (temporary exposures).
- We also use models to derive portfolio credit risk measures of expected loss, statistical loss and stress loss at the Group-wide and business division levels and to establish portfolio limits at these levels.
- Credit risk concentrations can arise if clients are engaged in similar activities, are located in the same geographical region or have comparable economic characteristics; for example, if their ability to meet contractual obligations would be similarly affected by changes in economic, political or other conditions. To avoid credit risk concentrations, we establish limits and/or operational controls that constrain risk concentrations at the portfolio and sub-portfolio levels with regard to sector exposure, country risk and specific product exposures. ▲

Credit risk profile of the Group

The exposures detailed in this section are based on our internal management view of credit risk, which differs in certain respects from the ECL measurement requirements of IFRS.

Internally, we categorize credit risk exposures into two broad categories: banking products and traded products. Banking products comprise drawn loans, guarantees and loan commitments, amounts due from banks, balances at central banks and other financial assets at amortized cost. Traded products comprise over-the-counter derivatives, exchange-traded derivatives and securities financing transactions, comprised of securities borrowing and lending, as well as repurchase and reverse repurchase agreements.

Banking products

The breakdowns of our banking products exposures in the "Banking and traded products exposure in our business divisions and Corporate Center" table below and on the next page are shown gross before allowances and provisions for expected credit losses and related single-name credit hedges. The effect of portfolio hedges, such as index credit default swaps, is not reflected. Guarantees and loan commitments are shown on a notional basis, without applying credit conversion factors. The gross exposure for banking products of USD 515 billion corresponds to the ECL gross exposure of USD 670 billion, including other financial assets measured at amortized cost, but excluding cash, receivables from securities financing transactions, cash collateral receivables on derivative instruments, financial assets at fair value through other comprehensive income (FVOCI), irrevocable committed prolongation of existing loans, unconditionally revocable committed credit lines, and forward starting reverse repurchase and securities borrowing agreements.

The table reflects the total exposures (stages 1–3) in scope of ECL requirements, allowances and provisions by ECL stages and separately credit-impaired exposures, gross (stage 3). Total gross banking products exposure was USD 515 billion as of 31 December 2019, compared with USD 518 billion at the end of the prior year.

→ **Refer to "Note 1 Summary of significant accounting policies" in the "Consolidated financial statements" section of this report for more information about our accounting policy for allowances and provisions for ECLs**

→ **Refer to "Note 10 Financial assets at amortized cost and other positions in scope of expected credit loss measurement" and "Note 23 Expected credit loss measurement" in the "Consolidated financial statements" section of this report for more information about ECL measurement requirements under IFRS**

→ **Refer to "Note 17a Other financial assets measured at amortized cost" in the "Consolidated financial statements" section of this report for more details**

Banking and traded products exposure in our business divisions and Corporate Center

	31.12.19					
USD million	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Corporate Center	Group
Banking products[1,2]						
Gross exposure	239,032	194,395	2,914	48,170	30,570	515,081
of which: loans and advances to customers (on-balance sheet)	*174,510*	*136,572*	*1*	*10,585*	*5,882*	*327,550*
of which: guarantees and loan commitments (off-balance sheet)	*5,578*	*23,142*	*0*	*16,009*	*960*	*45,689*
Traded products[2,3]						
Gross exposure	8,830	841	0	38,233		47,904
of which: over-the-counter derivatives	*6,571*	*804*	*0*	*9,832*		*17,207*
of which: securities financing transactions	*0*	*0*	*0*	*20,821*		*20,821*
of which: exchange-traded derivatives	*2,259*	*36*	*0*	*7,580*		*9,876*
Other credit lines, gross[4]	10,735	20,986	0	3,227	144	35,092
Total credit-impaired exposure, gross (stage 3)[1]	902	1,694	0	91	427	3,113
Total allowances and provisions for expected credit losses (stages 1 to 3)	209	696	0	87	37	1,029
of which: stage 1	*59*	*81*	*0*	*38*	*3*	*181*
of which: stage 2	*34*	*122*	*0*	*3*	*0*	*160*
of which: stage 3 (allowances and provisions for credit-impaired exposures)	*116*	*493*	*0*	*46*	*34*	*688*

Banking and traded products exposure in our business divisions and Corporate Center (continued)

	31.12.18[5]					
USD million	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Corporate Center	Group
Banking products[1]						
Gross exposure	239,835	186,802	2,751	59,980	28,357	517,725
of which: loans and advances to customers (on-balance sheet)	*170,413*	*133,253*	*7*	*9,090*	*8,362*	*321,125*
of which: guarantees and loan commitments (off-balance sheet)	*6,111*	*20,609*	*0*	*22,290*	*348*	*49,358*
Traded products[2,3]						
Gross exposure	10,606	873	0	30,771		42,250
of which: over-the-counter derivatives	*5,960*	*762*	*0*	*9,441*		*16,163*
of which: securities financing transactions	*153*	*0*	*0*	*16,004*		*16,157*
of which: exchange-traded derivatives	*4,494*	*111*	*0*	*5,325*		*9,930*
Other credit lines, gross[4]	10,345	22,994	0	3,202	94	36,634
Total credit-impaired exposure, gross (stage 3)[1]	625	1,974	0	140	415	3,154
Total allowances and provisions for expected credit losses (stages 1 to 3)	223	697	0	108	26	1,054
of which: stage 1	*62*	*78*	*0*	*34*	*3*	*176*
of which: stage 2	*34*	*146*	*0*	*3*	*0*	*183*
of which: stage 3 (allowances and provisions for credit-impaired exposures)	*127*	*474*	*0*	*71*	*23*	*695*

1 ECL gross exposure including other financial assets at amortized cost, but excluding cash, receivables from securities financing transactions, cash collateral receivables on derivative instruments, financial assets at FVOCI, irrevocable committed prolongation of existing loans and unconditionally revocable committed credit lines and forward starting reverse repurchase and securities borrowing agreements. 2 Internal management view of credit risk, which differs in certain respects from IFRS. 3 As counterparty risk for traded products is managed at counterparty level, no further split between exposures in the Investment Bank and Corporate Center is provided. 4 Unconditionally revocable committed credit lines. 5 The comparative figures have been restated for the changes in Corporate Center resource allocation to the business divisions. Refer to the "Significant accounting and financial reporting changes" section of this report for more information.

Global Wealth Management

Gross banking products exposure within Global Wealth Management decreased slightly to USD 239 billion from USD 240 billion.

Our Global Wealth Management loan portfolio is mainly secured by securities (Lombard loans) and by residential property. Most of the Lombard loans were of high quality, with 96% rated as investment grade based on our internal ratings, and they are typically short term in nature, with an average duration of three to six months. Moreover, Lombard loans can be canceled immediately, if the collateral quality deteriorates or margin calls are not met.

The portfolio of mortgage loans secured by properties in EMEA and Asia Pacific decreased to USD 6.4 billion from USD 6.5 billion. The overall quality of this portfolio remained high during the year.

In Global Wealth Management Region Americas the portfolio of loans secured by residential property consists primarily of residential mortgage loans offered in the US. Gross exposure increased to USD 17.2 billion from USD 14.3 billion. The overall quality of this portfolio remained high, with an average loan-to-value (LTV) ratio of 59.1%, compared with 58.7% (the comparative figure has been restated) as of 31 December 2018, and we have experienced negligible credit losses since the inception of the mortgage program in 2009. The five largest geographic concentrations in the portfolio were in California (27%), New York (14%), Florida (10%), Texas (5%) and New Jersey (4%).

Global Wealth Management and Personal & Corporate Banking loans and advances to customers, gross

	Global Wealth Management		Personal & Corporate Banking	
USD million	31.12.19	31.12.18	31.12.19	31.12.18
Secured by residential property	54,383	51,251	100,645	96,841
Secured by commercial / industrial property	2,619	2,233	17,131	16,887
Secured by cash	16,852	15,529	1,569	1,467
Secured by securities	88,684	90,946	1,766	1,647
Secured by guarantees and other collateral	10,591	9,469	5,351	5,754
Unsecured loans and advances to customers	1,381	986	10,111	10,657
Total loans and advances to customers, gross	174,510	170,413	136,572	133,253
Allowances	(93)	(102)	(595)	(594)
Total loans and advances to customers, net of allowances	174,417	170,312	135,978	132,659

Personal & Corporate Banking

Gross banking products exposure (excluding exposure re-allocated from Group Treasury) within Personal & Corporate Banking increased to USD 163 billion (CHF 158 billion) from USD 157 billion (CHF 155 billion), partly driven by the appreciation of the Swiss franc. Net banking products exposure was USD 162 billion (CHF 157 billion), compared with USD 157 billion (CHF 154 billion), of which approximately 63% was classified as investment grade, similar to 2018. Around 50% of the exposure is categorized in the lowest loss given default (LGD) bucket of 0–25%, similar to 2018. The size of Personal & Corporate Banking's gross loan portfolio increased by USD 3 billion (CHF 1 billion) to USD 137 billion (CHF 132 billion). As of 31 December 2019, 93% of this portfolio was secured by collateral, mainly residential and commercial property. Of the total unsecured amount, 79% related to cash flow-based lending to corporate counterparties and 5% related to lending to public authorities. Based on our internal ratings, 46% of the unsecured loan portfolio was rated as investment grade, compared with 47% in 2018.

Credit loss expense for banking products remained low in 2019.

Our Swiss corporate banking products portfolio, which was USD 26 billion (CHF 26 billion) compared with USD 27 billion (CHF 27 billion) in 2018, consists of loans, guarantees and loan commitments to multi-national and domestic counterparties. The small and medium-sized enterprises portfolio, in particular, is well diversified across industries. However, such companies are reliant on the domestic economy and the economies to which they export, in particular the EU and the US. In addition, the development of the EUR / CHF exchange rate is an important risk factor for Swiss corporate clients.

The delinquency ratio was 0.5% for the corporate portfolio, compared with 0.3% at the end of 2018.

→ **Refer to "Credit risk models" in this section for more information about loss given default, rating grades and rating agency mappings**

Swiss mortgage loan portfolio

Our Swiss mortgage loan portfolio secured by residential and commercial real estate in Switzerland continues to be our largest loan portfolio. These mortgage loans, totaling USD 146 billion (CHF 141 billion), mainly originate from Personal & Corporate Banking, but also from Global Wealth Management Region Switzerland. USD 133 billion (CHF 129 billion) of those mortgage loans related to residential properties that the borrower was either occupying or renting out, with full recourse to the borrower. Of this USD 133 billion (CHF 129 billion), USD 97 billion (CHF 94 billion) is related to properties occupied by the borrower, with an average LTV ratio of 54%, compared with 56% as of 31 December 2018. The average LTV for newly originated loans for this portion was 65%, compared with 66% in 2018. The remaining USD 36 billion (CHF 35 billion) of the Swiss residential mortgage loan portfolio relates to properties rented out by the borrower and the average LTV of that portfolio was 54%, compared with 55% as of 31 December 2018. The average LTV for newly originated Swiss residential mortgage loans for properties rented out by the borrower was 58%, compared with 57% in 2018.

As illustrated in the "Swiss mortgages: distribution of net exposure at default (EAD) across exposure segments and loan-to-value (LTV) buckets" table on the next page, more than 99% of the aggregate amount of Swiss residential mortgage loans would continue to be covered by the real estate collateral even if the value assigned to that collateral were to decrease by 20%, and 98% would remain covered by the real estate collateral even if the value assigned to that collateral were to decrease by 30%. In this table, the amount of each mortgage loan is allocated across the LTV buckets to indicate the portion at risk at the various value levels shown. For example, a loan of 75 with an LTV ratio of 75% (i.e., a collateral value of 100) would result in allocations of 30 in the less-than-30% LTV bucket, 20 in the 31–50% bucket, 10 in the 51–60% bucket, 10 in the 61–70% bucket and 5 in the 71–80% bucket.

Personal & Corporate Banking: distribution of banking products exposure across internal UBS ratings and loss given default (LGD) buckets[1]

USD million, except where indicated	31.12.19						31.12.18	
		LGD buckets				Weighted average LGD (%)		Weighted average LGD (%)[3]
Internal UBS rating[2]	Exposure	0–25%	26–50%	51–75%	76–100%		Exposure[3]	
Investment grade	102,491	58,331	34,250	8,314	1,597	27	97,854	27
Sub-investment grade	58,597	23,937	21,368	11,287	2,005	34	57,350	35
of which: 6–9	*53,811*	*21,715*	*19,783*	*10,502*	*1,812*	*34*	*53,130*	*34*
of which: 10–13	*4,786*	*2,222*	*1,585*	*785*	*193*	*32*	*4,220*	*35*
Defaulted / Credit-impaired	1,694	33	1,409	252	0	40	1,974	37
Total exposure before deduction of allowances and provisions	162,782	82,302	57,026	19,852	3,602	29	157,178	30
Less: allowances and provisions	(660)						(663)	
Net banking products exposure[1]	162,121						156,515	

1 Excluding balances at central banks and Group Treasury reallocations. 2 The ratings of the major credit rating agencies, and their mapping to our internal rating scale, are shown in the "Internal UBS rating scale and mapping of external ratings" table in this section. 3 Exposure and weighted average LGD have been restated.

Personal & Corporate Banking: unsecured loans by industry sector

	31.12.19		31.12.18	
	USD million	%	USD million	%
Construction	135	1.3	133	1.2
Financial institutions	1,873	18.5	2,139	20.1
Hotels and restaurants	81	0.8	79	0.7
Manufacturing	1,536	15.2	1,632	15.3
Private households	1,609	15.9	1,489	14.0
Public authorities	497	4.9	709	6.7
Real estate and rentals	236	2.3	170	1.6
Retail and wholesale	1,981	19.6	2,274	21.3
Services	1,850	18.3	1,774	16.6
Other	313	3.1	257	2.4
Exposure, gross	10,111	100.0	10,657	100.0

Swiss mortgages: distribution of net exposure at default (EAD) across exposure segments and loan-to-value (LTV) buckets

USD billion, except where indicated		31.12.19								31.12.18
		LTV buckets								
Exposure segment		≤30%	31–50%	51–60%	61–70%	71–80%	81–100%	>100%	Total	Total
Residential mortgages	Net EAD	76.0	34.5	10.0	5.2	1.7	0.2	0.1	127.7	123.4
	as a % of row total	60	27	8	4	1	0	0	100	
Income-producing real estate	Net EAD	12.0	4.7	1.1	0.6	0.2	0.0	0.0	18.7	17.9
	as a % of row total	64	25	6	3	1	0	0	100	
Corporates	Net EAD	6.1	2.3	0.6	0.3	0.1	0.1	0.0	9.6	9.0
	as a % of row total	64	24	6	3	2	1	0	100	
Other segments	Net EAD	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.7	0.7
	as a % of row total	66	20	6	4	2	2	0	100	
Mortgage-covered exposure	Net EAD	94.6	41.7	11.8	6.1	2.1	0.4	0.1	156.7	151.0
	as a % of total	60	27	8	4	1	0	0	100	
Mortgage-covered exposure 31.12.18	Net EAD	89.9	40.6	11.6	6.1	2.3	0.4	0.0	151.0	
	as a % of total	60	27	8	4	2	0	0	100	

Asset Management

Gross banking products exposure within Asset Management was USD 2.9 billion as of 31 December 2019, compared with USD 2.8 billion as of 31 December 2018. Banking products relate primarily to balances at central banks and to a lesser extent to cash at banks held by individual Asset Management legal entities, liquid assets and receivables.

Investment Bank

The Investment Bank's lending activities are largely associated with corporate and non-bank financial institutions. The business is broadly diversified across industry sectors, but concentrated in North America.

The gross banking products exposure including balances at central banks and Group Treasury reallocations as of 31 December 2019 was USD 48 billion, compared with USD 60 billion as of 31 December 2018. Gross banking products exposure excluding balances at central banks and Group Treasury reallocations decreased to USD 32 billion from USD 40 billion, mostly driven by reductions in guarantees and loan commitments. Based on our internal ratings, 54% of this gross banking products exposure was classified as investment grade. The vast majority of the gross banking products exposure had an estimated LGD below 50%.

Our loan underwriting business's overall ability to distribute risk remained sound. Total temporary loan underwriting exposure ended 2019 at USD 4.8 billion, USD 2.5 billion higher than the prior year. Loan underwriting exposures are classified as held for trading, with fair values reflecting market conditions at the end of 2019.

→ **Refer to "Credit risk models" in this section for more information about loss given default, rating grades and rating agency mappings**

Investment Bank: distribution of banking products exposure across internal UBS ratings and loss given default (LGD) buckets[1]

USD million, except where indicated	31.12.19						31.12.18	
		LGD buckets						
Internal UBS rating[2]	Exposure	0–25%	26–50%	51–75%	76–100%	Weighted average LGD (%)	Exposure	Weighted average LGD (%)
Investment grade	17,541	4,485	9,853	2,111	1,091	40	24,239	39
Sub-investment grade	14,598	4,796	4,272	5,465	64	18	15,490	15
of which: 6–9	*10,746*	*3,421*	*2,141*	*5,121*	*64*	*14*	*12,169*	*11*
of which: 10–13	*3,852*	*1,376*	*2,132*	*344*	*0*	*30*	*3,321*	*29*
Defaulted / Credit-impaired	91	26	25	27	13	40	140	36
Banking products exposure[1]	32,229	9,307	14,150	7,604	1,168	30	39,869	30

1 Excluding balances at central banks and Group Treasury reallocations. 2 The ratings of the major credit rating agencies, and their mapping to our internal rating scale, are shown in the "Internal UBS rating scale and mapping of external ratings" table in this section.

Investment Bank: banking products exposure by geographical region[1]

	31.12.19		31.12.18	
	USD million	%	USD million	%
Asia Pacific	5,080	15.8	6,123	15.4
Latin America	844	2.6	1,170	2.9
Middle East and Africa	467	1.5	471	1.2
North America	16,553	51.4	18,865	47.3
Switzerland	779	2.4	2,588	6.5
Rest of Europe	8,505	26.4	10,652	26.7
Exposure[1]	32,229	100.0	39,869	100.0

1 Excluding balances at central banks and Group Treasury reallocations.

Investment Bank: banking products exposure by industry sector[1]

	31.12.19		31.12.18	
	USD million	%	USD million	%
Banks	5,375	16.7	6,779	17.0
Chemicals	766	2.4	711	1.8
Electricity, gas, water supply	534	1.7	1,765	4.4
Financial institutions, excluding banks	12,944	40.2	14,488	36.3
Manufacturing	1,705	5.3	2,342	5.9
Mining	1,699	5.3	1,759	4.4
Public authorities	872	2.7	706	1.8
Real estate and construction	1,291	4.0	1,553	3.9
Retail and wholesale	1,842	5.7	2,488	6.2
Technology and communications	2,302	7.1	2,372	5.9
Transport and storage	458	1.4	719	1.8
Other	2,441	7.6	4,188	10.5
Exposure[1]	32,229	100.0	39,869	100.0

1 Excluding balances at central banks and Group Treasury reallocations.

Corporate Center

Gross banking products exposure within Corporate Center, which arises primarily in connection with treasury activities, increased by USD 2 billion to USD 31 billion.

→ **Refer to "Balance sheet assets" in the "Treasury management" section of this report for more information**

→ **Refer to the "Corporate Center" section under "Financial and operating performance" of this report for more information**

Traded products

Audited | Counterparty credit risk arising from traded products, which include over-the-counter (OTC) derivatives, exchange-traded derivatives (ETD) exposures and securities financing transactions (SFTs) originating in the Investment Bank, Non-core and Legacy Portfolio and Group Treasury is generally managed on a close-out basis. This takes into account the possible effect of market movements on the exposure and any associated collateral over the time it would take to close out our positions. In the Investment Bank, limits are applied to the potential future exposure per counterparty, with the size of the limit driven by the view of the creditworthiness of the counterparty as determined by Credit Risk Control. Limit frameworks are also applied to control overall exposure to specific classes or categories of collateral on a portfolio level. Such portfolio limits are monitored and reported to senior management.

Trading in OTC derivatives is conducted through central counterparties (CCPs) where practicable. Where CCPs are not used, we have clearly defined policies and processes for trading on a bilateral basis. Trading is typically conducted under bilateral International Swaps and Derivatives Association (ISDA) or similar master netting agreements, which generally allow for the close-out and netting of transactions in the event of default subject to applicable law. For most major market participant counterparties, we employ two-way collateral agreements under which either party can be required to provide collateral in the form of cash or marketable securities when the exposure exceeds specified levels. This collateral typically consists of well-rated government debt or other collateral permitted by applicable regulations. For certain counterparties, an initial margin is taken to cover some or all of the calculated close-out exposure. This is in addition to the variation margin taken to settle changes in the market value of transactions. Regulations governing the margining of uncleared OTC derivatives continue to evolve. These generally expand the scope of bilateral derivatives activity subject to margining. In addition, they will result in greater amounts of initial margin received from, and posted to, certain bilateral trading counterparties than had been required in the past. These changes should result in lower close-out risk over time. ▲

→ **Refer to "Note 11 Derivative instruments" in the "Consolidated financial statements" section of this report for more information about our over-the-counter derivatives settled through central counterparties**

→ **Refer to "Note 25 Offsetting financial assets and financial liabilities" in the "Consolidated financial statements" section of this report for more information about the effect of netting and collateral arrangements on our derivative exposures**

Credit risk arising from traded products, after the effects of master netting agreements but excluding credit valuation adjustments and hedges, increased by USD 6 billion to USD 48 billion as of 31 December 2019. OTC derivatives accounted for USD 17 billion, exposures from SFTs were USD 21 billion, and ETD exposures amounted to USD 10 billion. OTC derivatives exposures are generally measured as net positive replacement values after the application of legally enforceable netting agreements and the deduction of cash and marketable securities held as collateral. SFT exposures are reported taking into account collateral received, and ETD exposures take into account collateral margin calls.

The majority of the gross traded products exposures were within the Investment Bank, Non-core and Legacy Portfolio, and Group Treasury, totaling USD 38 billion, compared with USD 31 billion as of 31 December 2018. As counterparty risk for traded products is managed at the counterparty level, no further split is provided between exposures in the Investment Bank and those in Non-core and Legacy Portfolio and Group Treasury. The traded products exposure includes OTC derivatives gross exposures of USD 10 billion in the Investment Bank and Non-core and Legacy Portfolio, an increase of USD 0.4 billion from the prior year. During 2019, SFT exposures increased by USD 5 billion to USD 21 billion, mainly due to increases in trading relationships and in posted collateral. ETD exposures increased by USD 2 billion to USD 8 billion. The tables on the next page provide more information about the OTC derivatives, SFT and ETD exposures of the Investment Bank, Non-core and Legacy Portfolio and Group Treasury.

Investment Bank, Non-core and Legacy Portfolio and Group Treasury: traded products exposure

USD million	OTC derivatives	SFTs	ETD	Total	Total
		31.12.19			31.12.18
Total exposure, before deduction of credit valuation adjustments and hedges	9,830	20,821	7,580	38,232	30,769
Less: credit valuation adjustments and allowances	(38)			(38)	(136)
Less: credit protection bought (credit default swaps, notional)	(242)			(242)	(288)
Net exposure after credit valuation adjustments, allowances and hedges	9,550	20,821	7,580	37,952	30,346

Investment Bank, Non-core and Legacy Portfolio and Group Treasury: distribution of net OTC derivatives and SFT exposure across internal UBS ratings and loss given default (LGD) buckets

USD million, except where indicated	31.12.19						31.12.18	
		LGD buckets						
Internal UBS rating[1]	Exposure	0–25%	26–50%	51–75%	76–100%	Weighted average LGD (%)	Exposure	Weighted average LGD (%)
Net OTC derivatives exposure								
Investment grade	9,247	189	7,488	1,379	191	47	8,737	46
Sub-investment grade	304	32	55	182	34	56	280	54
of which: 6–9	*176*	*18*	*52*	*75*	*31*	*57*	*242*	*56*
of which: 10–12	*112*	*0*	*4*	*107*	*1*	*58*	*19*	*45*
of which: 13 and defaulted	*16*	*14*	*0*	*0*	*2*	*19*	*19*	*37*
Total net OTC derivatives exposure, after credit valuation adjustments and hedges	9,550	221	7,543	1,561	225	47	9,016	47
Net SFT exposure								
Investment grade	20,524	1	18,397	1,737	388	40	15,668	41
Sub-investment grade	297	0	174	34	90	62	336	63
Total net SFT exposure	20,821	1	18,571	1,772	478	40	16,004	41

1 The ratings of the major credit rating agencies, and their mapping to our internal rating scale, are shown in the "Internal UBS rating scale and mapping of external ratings" table in this section.

Investment Bank, Non-core and Legacy Portfolio and Group Treasury: net OTC derivatives and SFT exposure by geographical region

	Net OTC derivatives				Net SFT exposure			
	31.12.19		31.12.18		31.12.19		31.12.18	
	USD million	%	USD million	%	USD million	%	USD million	%
Asia Pacific	1,383	14.5	1,309	14.5	5,055	24.3	3,408	21.3
Latin America	97	1.0	104	1.2	4	0.0	62	0.4
Middle East and Africa	123	1.3	109	1.2	900	4.3	549	3.4
North America	2,421	25.3	2,621	29.1	4,714	22.6	3,014	18.8
Switzerland	1,022	10.7	276	3.1	852	4.1	1,375	8.6
Rest of Europe	4,503	47.2	4,597	51.0	9,297	44.7	7,597	47.5
Exposure	9,550	100.0	9,016	100.0	20,821	100.0	16,004	100.0

Investment Bank, Non-core and Legacy Portfolio and Group Treasury: net OTC derivatives and SFT exposure by industry sector

	Net OTC derivatives				Net SFT exposure			
	31.12.19		31.12.18		31.12.19		31.12.18	
	USD million	%	USD million	%	USD million	%	USD million	%
Banks	4,608	48.3	3,813	42.3	3,713	17.8	3,495	21.8
Chemicals	4	0.0	5	0.1	0	0.0	0	0.0
Electricity, gas, water supply	99	1.0	87	1.0	0	0.0	0	0.0
Financial institutions, excluding banks	3,188	33.4	3,425	38.0	15,593	74.9	11,404	71.3
Manufacturing	67	0.7	89	1.0	0	0.0	0	0.0
Mining	9	0.1	12	0.1	0	0.0	0	0.0
Public authorities	1,019	10.7	1,198	13.3	1,514	7.3	1,102	6.9
Retail and wholesale	17	0.2	10	0.1	0	0.0	0	0.0
Transport, storage and communication	383	4.0	284	3.1	0	0.0	0	0.0
Other	156	1.6	92	1.0	0	0.0	3	0.0
Exposure	9,550	100.0	9,016	100.0	20,821	100.0	16,004	100.0

Credit risk mitigation

Audited | We actively manage the credit risk in our portfolios by taking collateral against exposures and by utilizing credit hedging. ▲

Lending secured by real estate

Audited | We use a scoring model as part of a standardized front-to-back process to support credit decisions for the origination or modification of Swiss mortgage loans. The two key factors within this model are an affordability calculation relative to gross income and the loan-to-value (LTV) ratio. ▲

The calculation of affordability takes into account interest payments, minimum amortization requirements, potential property maintenance costs and, in the case of properties expected to be rented out, the level of rental income. Interest payments are estimated using a predefined framework, which takes into account the potential for significant increases in interest rates during the lifetime of the loan. The interest rate is set at 5% per annum.

For residential properties occupied by the borrower, the maximum LTV allowed within the standard approval process is 80%. This is reduced to 60% in the case of vacation properties and luxury real estate. For other properties, the maximum LTV allowed within the standard approval process ranges from 30% to 80%, depending on the type of property, the age of the property and the amount of renovation work required.

Audited | The value assigned by UBS to each property is based on the lowest value determined from internally calculated valuations, the purchase price and, in some cases, an additional external valuation. ▲

We use two separate models provided by a market-leading external vendor to derive property valuations for owner-occupied residential properties (ORP) and income-producing real estate. For ORP, we estimate the current value of properties by using a regression model (a hedonic model) to compare detailed characteristics for each property against a database of property transactions. In addition to the model-derived values, valuations for ORP are updated quarterly throughout the lifetime of the loan by using region-specific real estate price indices. The price indices are sourced from an external vendor and are subject to internal validation and benchmarking against two other external vendors. On a quarterly basis, we use these valuations to compute indexed LTV for all ORP and consider these together with other risk measures (e.g., rating migration and behavioral information) to identify higher-risk loans, which are then reviewed individually by client advisors and credit officers, with action taken where considered necessary.

For income-producing real estate, the capitalization model is used to determine the property valuation by discounting estimated sustainable future income using a capitalization rate based on various attributes. These attributes consider regional as well as specific property characteristics, such as market and location data (e.g., vacancy rates), benchmarks (e.g., for running costs) and certain other standardized input parameters (e.g., property condition). Rental income from properties is reviewed at a minimum once every three years, but indications of significant changes in the amount of rental income or in the vacancy rate can trigger an interim reappraisal.

To take market developments into account for these models, the external vendor regularly updates the parameters and/or refines the architecture for each model. Model changes and parameter updates are subject to the same validation procedures as our internally developed models.

Audited | We similarly apply underwriting guidelines for our Global Wealth Management Region Americas mortgage loan portfolio, taking into account affordability of the loans and sufficiency of collateral. The maximum LTV within the standard approval process for any type of mortgage is 80%. A stratification of LTVs exists for the various mortgage types, such as residential mortgage or investment property, based on associated risk factors, such as property types, loan size and loan purpose. Maximum LTVs go as low as 45%. Additionally, other credit risk metrics are applied, based upon property and borrower characteristics, such as debt-to-income ratios, FICO credit scores and required client reserves.

A risk limit framework is applied to the Global Wealth Management Region Americas mortgage loan portfolio. Limits have been established to govern exposures within LTV categories, geographic concentrations, portfolio growth and high-risk mortgage segments, such as interest-only loans. These limits are monitored by a specialized credit risk monitoring team and reported to senior management. Supplementing this limit framework is a real estate lending policy and procedures framework, established to govern the real estate lending activities. Quality assurance and quality control programs are in place to monitor compliance with mortgage underwriting and documentation requirements. ▲

→ **Refer to "Swiss mortgage loan portfolio" in this section for more information about LTV in our Swiss mortgage portfolio**

→ **Refer to "Global Wealth Management" in this section for more information about LTV in our Global Wealth Management Region Americas mortgage portfolio**

Lombard lending

Audited | Lombard loans are secured by pledges of marketable securities, guarantees and other forms of collateral. Eligible financial securities primarily include transferable securities (such as bonds and equities) that are liquid and actively traded, and other transferable securities, such as approved structured products for which regular prices are available and for which the issuer of the security provides a market. To a lesser degree, less liquid collateral is also financed.

We apply discounts (haircuts) to reflect the pledged collateral's risk and to derive the lending value. Haircuts for marketable securities are calculated to cover the possible change in the market value over a given close-out period and confidence level. The haircut applied will vary, depending on the view of the collateral quality. Less liquid or more volatile collateral will typically attract larger haircuts. For less liquid instruments, such as structured products, some bonds and products with long redemption periods, the assumed close-out period may be much longer than that for highly liquid instruments, or an assessment is made as to the expected recovery on the asset in the event of the counterparty's default, resulting in a larger haircut. For cash, life insurance policies, guarantees and letters of credit, haircuts are determined on a product- or client-specific basis.

We also consider concentration and correlation risks across collateral posted at a counterparty level, as well as at a divisional level across counterparties. Additionally, we perform targeted Group-wide reviews of concentrations. A concentration of collateral in single securities, issuers or issuer groups, industry sectors, countries, regions or currencies may result in higher risk and reduced liquidity. In such cases, the lending value of the collateral, margin call and close-out levels are adjusted accordingly. ▲

Exposures and collateral values are monitored on a daily basis with the intention of ensuring that the credit exposure continues to be within the established risk tolerance. A shortfall occurs when the lending value drops below the exposure. If a shortfall exceeds a defined trigger level, a margin call is initiated, requiring the client to provide additional collateral, reduce the exposure or take other action to bring the exposure in line with the agreed lending value of the collateral. If the extent of the shortfall increases and exceeds a further trigger level, or the shortfall is not corrected within the required period, then a close-out is initiated, through which collateral is liquidated, open derivative positions are closed and guarantees are called.

We also conduct stress testing of collateralized exposures to simulate market events that reduce the value of the collateral, increase the exposure of traded products, or both. For certain classes of counterparties, limits on such calculated stress exposures are applied and controlled at a counterparty level. In addition, there are portfolio limits applied across certain businesses or collateral types.

→ **Refer to "Stress loss" in this section for more information about our stress testing**

Credit hedging

Audited | We utilize single-name credit default swaps (CDSs), credit index CDSs, bespoke protection and other instruments to actively manage credit risk in the Investment Bank and Non-core and Legacy Portfolio. This is aimed at reducing concentrations of risk from specific counterparties, sectors or portfolios and, in the case of counterparty credit risk, the profit or loss effect arising from changes in credit valuation adjustments (CVA).

We maintain strict guidelines for taking credit hedges into account for credit risk mitigation purposes. For example, when monitoring exposures against counterparty limits, we do not usually apply certain credit risk mitigants, such as proxy hedges (credit protection on a correlated but different name) or credit index CDSs, to reduce counterparty exposures. Buying credit protection also creates credit exposure with regard to the protection provider. We monitor and limit our exposures to credit protection providers and we also monitor the effectiveness of credit hedges as part of our overall credit exposures to the relevant counterparties. Trading with such counterparties is typically collateralized. For credit protection purchased to hedge the lending portfolio, this includes monitoring mismatches between the maturity of the credit protection purchased and the maturity of the associated loan. Such mismatches result in basis risk and may reduce the effectiveness of the credit protection. Mismatches are routinely reported to credit officers and mitigating actions are taken when deemed necessary. ▲

→ **Refer to "Note 11 Derivative instruments" in the "Consolidated financial statements" section of this report for more information**

Mitigation of settlement risk

To mitigate settlement risk, we reduce our actual settlement volumes through the use of multi-lateral and bilateral agreements with counterparties, including payment netting.

The most significant source of our settlement risk is foreign exchange transactions. We are a member of Continuous Linked Settlement (CLS), an industry utility that provides a multi-lateral framework to settle transactions on a delivery-versus-payment basis, thereby significantly reducing foreign exchange-related settlement risk relative to the volume of business. However, the mitigation of settlement risk through CLS and other means does not fully eliminate our credit risk in foreign exchange transactions resulting from changes in exchange rates prior to settlement, which is managed as part of our overall credit risk management of OTC derivatives.

Credit risk models

Basel III – A-IRB credit risk models

Audited | We have developed tools and models in order to estimate future credit losses that may be implicit in our current portfolio.

Exposures to individual counterparties are measured on the basis of three generally accepted parameters: probability of default (PD); exposure at default (EAD); and loss given default (LGD). For a given credit facility, the product of these three parameters results in the expected loss. These parameters are the basis for the majority of our internal measures of credit risk, and are key inputs for the regulatory capital calculation under the advanced internal ratings-based (A-IRB) approach of the Basel III framework governing international convergence of capital measurement and standards. We also use models to derive the portfolio credit risk measures of expected loss, statistical loss and stress loss. ▲

The "Key features of our main credit risk models" table on the next page shows the number and key features of the models that we use to derive PD, LGD and EAD for our main portfolios and asset classes, and is followed by more detailed explanations of these models and parameters.

→ **Refer to the 31 December 2019 Pillar 3 report, available under "Pillar 3 disclosures" at *www.ubs.com/investors*, for more information about the regulatory capital calculation under the advanced internal ratings-based approach**

Key features of our main credit risk models

	Portfolio in scope	Asset class	Model approach	Number of main models	Main drivers	Number of years loss data[1]
Probability of default	Sovereigns and central banks	Central governments and central banks	Score card	1	Political, institutional and economic indicators	>10
	Owner-occupied mortgages in Switzerland and the US	Retail: residential mortgages	Score card	2	Behavioral data, affordability relative to income, property type, loan-to-value. Separate models for mortgages in Switzerland and the US	25
	Income-producing real estate mortgages	Retail: residential mortgages, Corporates: specialized lending	Score card	1	Loan-to-value, debt service coverage, financial data (for large corporates only), behavioral data; Weights of risk drivers differ between corporate and private clients	25
	Lombard lending	Retail: other	Merton type	1	Loan-to-value, historical asset returns, behavioral data	13
	Small and medium-sized enterprises	Corporates: other lending	Score card	1	Financial data including balance sheet ratios and profit and loss, behavioral data. Weights of risk drivers differ depending on the corporate client sub-segment	25
	Banks	Banks and securities dealers	Score card	4	Financial data including balance sheet ratios and profit and loss. Separate models for banks – developed markets, banks – emerging markets, broker-dealers and investment banks, private banks	12
	Commodity traders	Corporates: specialized lending	Rating template	1	Financial data including balance sheet ratios and profit and loss, as well as non-financial criteria	21
	Aircraft financing	Corporates: other lending	Rating template	1	Financial structure of the transaction	13
	Large corporates	Corporates: other lending	Score card / market data	4	Financial data including balance sheet ratios and profit and loss, and market data. Separate models for corporates with publicly traded and highly liquid stocks (Market Intelligence Tool), private corporates, leveraged corporates and corporates in construction and real estate business	12
	Other portfolios	Corporates: other lending, Public-sector entities and multilateral development banks	Score card / pooled rating approach / rating template	9	Financial data and/or historical portfolio performance for pooled ratings. Separate models for hedge funds, managed funds, insurance companies, commercial real estate loans, mortgage originators, public sector entities and multilateral development banks/supranationals	12
Loss given default	Owner-occupied mortgages in Switzerland and the US	Retail: residential mortgages	Statistical model	2	Loan-to-value, time since last valuation. Separate models for mortgages in Switzerland and the US	11
	Income-producing real estate mortgages	Retail: residential mortgages, Corporates: specialized lending	Statistical model	1	Loan-to-value, time since last valuation, property type, location indicator	11
	Lombard lending	Retail: other	Statistical model, simulation	1	Historical observed loss rates	11
	Small and medium-sized enterprises	Corporates: other lending	Statistical model	2	Separate models for mortgage and non-mortgage LGDs. Mortgage models: loan-to-value, time since last valuation, property type, location indicator. Non-mortgage models: historical observed loss rates	11–17
	Investment Bank – all counterparties	Across the asset classes	Statistical model	2	Counterparty and facility specific, including industry segment, collateral, seniority, legal environment and bankruptcy procedures. Specific model for sovereign LGDs based on econometric modelling of past default events using GDP per capita, government debt, and other quantitative and qualitative factors such as the share of multilateral debt service, the size of the banking sector and institutional quality	5–10
Exposure at default	Banking products	Across the asset classes	Statistical model	3	Separate models based on exposure type (committed credit lines, revocable credit lines, contingent products)	>10
	Traded products	Across the asset classes	Statistical model	2	Product-specific market drivers, e.g., interest rates. Separate models for OTC derivatives, ETDs and SFTs that generate the simulation of risk factors used for the credit exposure measure	n/a

1 For sovereign and Investment Bank PD models, the length of internal portfolio history is shown in Number of years loss data.

Audited |

Internal UBS rating scale and mapping of external ratings

Internal UBS rating	*1-year PD range in %*	*Description*	*Moody's Investors Service mapping*	*Standard & Poor's mapping*	*Fitch mapping*
0 and 1	*0.00–0.02*	*Investment grade*	Aaa	AAA	AAA
2	*0.02–0.05*		Aa1 to Aa3	AA+ to AA–	AA+ to AA–
3	*0.05–0.12*		A1 to A3	A+ to A–	A+ to A–
4	*0.12–0.25*		Baa1 to Baa2	BBB+ to BBB	BBB+ to BBB
5	*0.25–0.50*		Baa3	BBB–	BBB–
6	*0.50–0.80*	*Sub-investment grade*	Ba1	BB+	BB+
7	*0.80–1.30*		Ba2	BB	BB
8	*1.30–2.10*		Ba3	BB–	BB–
9	*2.10–3.50*		B1	B+	B+
10	*3.50–6.00*		B2	B	B
11	*6.00–10.00*		B3	B–	B–
12	*10.00–17.00*		Caa	CCC	CCC
13	*>17*		Ca to C	CC to C	CC to C
Counterparty is in default	*Default*	*Defaulted*		D	D

Probability of default

Probability of default (PD) is an estimate of the likelihood of a counterparty defaulting on its contractual obligations over the next 12 months. PD ratings are used for credit risk measurement and are an important input for determining credit risk approval authorities. For the calculation of risk-weighted assets (RWA), a 3-basis-point PD floor is applied to Banks, Corporates and Retail exposures as required under the Basel III framework. Additionally, for Swiss owner-occupied mortgages we apply an 8-basis-point PD floor and for Lombard loans a 4-basis-point PD floor.

PD is assessed using rating tools tailored to the various categories of counterparties. Statistically developed scorecards, based on key attributes of the obligor, are used to determine PD for many of our corporate clients and for loans secured by real estate. Where available, market data may also be used to derive the PD for large corporate counterparties. For low-default portfolios, where available, we take into account relevant external default data in the rating tool development. For Lombard loans, Merton-type historical return-based model simulations taking into account potential changes in the value of securities collateral are used in our rating approach. These categories are also calibrated to our internal credit rating scale (masterscale), which is designed to ensure a consistent assessment of default probabilities across counterparties. Our masterscale expresses one-year default probabilities that we determine through our various rating tools by means of distinct classes, whereby each class incorporates a range of default probabilities. Counterparties migrate between rating classes as our assessment of their PD changes.

The ratings of the major credit rating agencies, and their mapping to our masterscale and internal PD bands, are shown in the "Internal UBS rating scale and mapping of external ratings" table above. The mapping is based on the long-term average of one-year default rates available from the rating agencies. For each external rating category, the average default rate is compared with our internal PD bands to derive a mapping to our internal rating scale. Our internal rating of a counterparty may therefore diverge from one or more of the correlated external ratings shown in the table. Observed defaults by rating agencies may vary through economic cycles, and we do not necessarily expect the actual number of defaults in our equivalent rating band to equal the rating agencies' average in any given period. We periodically assess the long-term average default rates of credit rating agencies' grades, and we adjust their mapping to our masterscale as necessary to reflect any material changes.

Exposure at default

Exposure at default (EAD) represents the amount we expect to be owed by a counterparty at the time of a possible default. We derive EAD from our current exposure to the counterparty and the possible future development of that exposure.

The EAD of an on-balance sheet loan is its notional amount. For off-balance sheet commitments that are not drawn, credit conversion factors (CCFs) are applied in order to obtain an expected on-balance sheet amount. Such CCFs are based on historical observations. To comply with regulatory guidance, we floor individual observed CCF values at zero in the CCF model; i.e., we assume that the drawn EAD will be no less than the drawn amount one year prior to default.

For traded products, we derive EAD by modeling the range of possible exposure outcomes at various points in time using scenario and statistical techniques. We assess the net amount that may be owed to us or that we may owe to others, taking into account the effect of market movements over the potential time it would take to close out our positions. For ETDs, our calculation of EAD takes into account collateral margin calls. When measuring individual counterparty exposure against credit limits, we consider the maximum likely exposure measured to a high level of confidence. However, when aggregating exposures to different counterparties for portfolio risk measurement purposes, we use the expected exposure to each counterparty at a given time period (usually one year) generated by the same model.

We assess our exposures where there is a material correlation between the factors driving the credit quality of the counterparty and those driving the potential future value of our traded products exposure (wrong-way risk), and we have established specific controls to mitigate such risks.

Loss given default

Loss given default (LGD) is the magnitude of the likely loss if there is a default. Our LGD estimates, which consider downturn conditions, include loss of principal, interest and other amounts (such as workout costs, including the cost of carrying an impaired position during the workout process) less recovered amounts. We determine LGD based on the likely recovery rate of claims against defaulted counterparties, which depends on the type of counterparty and any credit mitigation by way of collateral or guarantees. Our estimates are supported by our internal loss data and external information, where available. Where we hold collateral, such as marketable securities or a mortgage on a property, loan-to-value ratios are typically a key parameter in determining LGD. For low-default portfolios, where available, we take into account relevant external default data in the rating tool development. In the RWA calculation, the regulatory LGD floor of 10% is applied for exposures secured by residential properties. Additionally, we apply a 30% LGD floor for Lombard loans in Global Wealth Management outside Region Americas and a 25% LGD floor for Lombard loans in Global Wealth Management Region Americas. All other LGDs are subject to a 5% floor.

Expected loss

Credit losses are an inherent cost of doing business and the occurrence and amount of credit losses can be erratic. In order to quantify future credit losses that may be implicit in our current portfolio, we use the concept of expected loss. The expected loss for a given credit facility is a product of the three components described above, i.e., PD, EAD and LGD. We aggregate the expected loss for individual counterparties to derive our expected portfolio credit losses.

Expected loss (EL) for regulatory and internal risk control purposes is a statistical measure used to estimate the average annual costs we expect to experience from positions that become impaired. Expected loss is the basis for quantifying credit risk in all our portfolios. We use a statistical modeling approach to estimate the loss profile of each of our credit portfolios over a one-year period to a specified level of confidence. The mean value of this loss distribution is the expected loss. The EL provides an indication of the level of risk in our portfolio and it may change over time. Some parameters have to be estimated on a conservative basis in order to meet the regulatory requirements for banks applying the internal ratings-based approach to determine RWA.

IFRS 9 – ECL credit risk models

The IFRS 9 expected credit loss (ECL) concept differs from our standard credit risk models in some important aspects. The following ECL definitions are generally derivations from our standard credit risk models.

→ **Refer to "Note 1 Summary of significant accounting policies" in the "Consolidated financial statements" section of this report for more information about our accounting policy for allowances and provisions for ECL**

Probability of default

PD represents the likelihood of a default over a specified time period. A 12-month PD represents the likelihood of default determined for the next 12 months and a lifetime PD represents the probability of default over the remaining lifetime of the instrument. The lifetime PD calculation is based on a series of 12-month point-in-time PDs that are derived from through-the-cycle PDs and scenario forecasts. This modeling is region-, industry- and client segment-specific and considers both macroeconomic scenario-dependencies and client-idiosyncratic information. To derive the cumulative lifetime PD per scenario, the series of 12-month point-in-time PDs are transformed into marginal point-in-time PDs, taking into account any assumed default events from prior periods.

Exposure at default

EAD represents an estimate of the exposure to credit risk at the time of a potential default occurring during the life of a financial instrument. It represents the cash flows outstanding at the time of default, considering expected repayments, interest payments and accruals, discounted at the effective interest rate. Future drawdowns on facilities are considered through a CCF that is reflective of historical drawdown and default patterns and the characteristics of the respective portfolios. ECL-specific CCFs have been modeled to capture client segment- and product-specific patterns after removing Basel standard-specific limitations, i.e., conservatism, and focus on a 12-month period prior to default.

Loss given default

LGD represents an estimate of the loss at the time of a potential default occurring during the life of a financial instrument. The determination of the LGD takes into account expected future cash flows from collateral and other credit enhancements, or expected payouts from bankruptcy proceedings for unsecured claims and, where applicable, time to realization of collateral and the seniority of claims. LGD is commonly expressed as a percentage of the relevant EAD.

Expected credit loss
Expected credit losses (ECLs) represent the difference between contractual cash flows and those UBS expects to receive, discounted at the EIR. For loan commitments and other credit facilities in scope of ECL requirements, expected cash shortfalls are determined by considering expected future drawdowns. Rather than focusing on an average through-the-cycle expected annual loss, its purpose is to estimate the amount of losses inherent in a portfolio based on current conditions and future outlook (a point-in-time measure), whereby such forecast has to include all information that is available without undue cost and effort, and address multiple scenarios where there is a perceived non-linearity between changes in economic conditions and their effect on credit losses. From a credit risk modeling perspective, ECL parameters are generally a derivation of the factors assessed for regulatory Basel III EL.

Comparison of Basel III EL and IFRS 9 ECL
Depending on the application, there are a number of key differences in the estimation process and the result thereof. Most notably, regulatory Basel III EL parameters are through-the-cycle / downturn estimates, which might include a margin of conservatism, while IFRS 9 ECL parameters are typically point-in-time, reflecting current economic conditions and future outlook. The main differences are summarized in the table below.

The estimation of expected (credit) loss is not a forecast of the annual charge to *Credit loss expense* resulting from loans and off-balance sheet exposures that become impaired. Basel III EL is not particularly sensitive to prevailing economic conditions with its through-the-cycle / downturn view. ECL, in contrast, is grounded in point-in-time economic conditions, but measured as an average of different scenarios, and for time periods that are dependent on the maturity profile of the book at reporting date and the particular stage classification required by IFRS 9. It does not, therefore, cover a point-in-time credit loss expense expectation measured over a quarter or a calendar year.

Further key aspects of credit risk models

Stress loss
We complement our statistical modeling approach with scenario-based stress loss measures. Stress tests are run on a regular basis to monitor the potential effect of extreme, but nevertheless plausible, events on our portfolios, under which key credit risk parameters are assumed to deteriorate substantially. Where we consider it appropriate, we apply limits on this basis.

In the table below, we illustrate the main differences between the two expected loss measures:

	Basel III EL (advanced internal ratings-based approach)	IFRS 9 ECL
Scope	The Basel III advanced internal ratings-based (A-IRB) approach applies to most credit risk exposures. It includes transactions measured at amortized cost, at fair value through profit or loss and at fair value through OCI, including loan commitments and financial guarantees.	The IFRS 9 expected credit loss (ECL) calculation mainly applies to financial assets measured at amortized cost and debt instruments measured at fair value through OCI, as well as loan commitments and financial guarantee contracts not at fair value through profit or loss.
12-month versus lifetime expected loss	The Basel III A-IRB approach takes into account expected losses resulting from expected default events occurring within the next 12 months.	In the absence of a significant increase in credit risk (SICR), a maximum 12-month ECL is recognized to reflect lifetime cash shortfalls that will result if a default event occurs in the 12 months after the reporting date (or a shorter period if the expected lifetime is less). Once an SICR event has occurred, a lifetime ECL is recognized considering expected default events over the life of the transaction.
Exposure at default (EAD)	EAD is the amount we expect a counterparty to owe us at the time of a possible default. For banking products, the EAD equals the book value as of the reporting date, whereas for traded products, such as securities financing transactions, the EAD is modeled. The EAD is expected to remain constant over the 12-month period. For loan commitments, a credit conversion factor is applied to model expected future drawdowns over the 12-month period, irrespective of the actual maturity of a particular transaction. The credit conversion factor includes downturn adjustments.	EAD is generally calculated on the basis of the cash flows that are expected to be outstanding at the individual points in time during the life of the transaction, discounted to the reporting date using the effective interest rate. For loan commitments, a credit conversion factor is applied to model expected future drawdowns over the life of the transaction without including downturn assumptions. In both cases, the time period is capped at 12 months, unless an SICR has occurred.
Probability of default (PD)	PD estimates are determined on a through-the-cycle (TTC) basis. They represent historical average PDs, taking into account observed losses over a prolonged historical period, and are therefore less sensitive to movements in the underlying economy.	PD estimates will be determined on a point-in-time (PIT) basis, based on current conditions and incorporating forecasts for future economic conditions at the reporting date.
Loss given default (LGD)	LGD includes prudential adjustments, such as downturn LGD assumptions and floors. Similar to PD, LGD is determined on a TTC basis.	LGD should reflect the losses that are reasonably expected and prudential adjustments should therefore not be applied. Similar to PD, LGD is determined on the basis of a PIT approach.
Use of scenarios	N/A	Multiple forward-looking scenarios have to be taken into account to determine a probability-weighted ECL.

Stress scenarios and methodologies are tailored to the nature of the portfolios, ranging from regionally focused to global systemic events, and varying in time horizon. For example, for our loan underwriting portfolio, we apply a global market event under which, simultaneously, the market for loan syndication freezes, market conditions significantly worsen, and credit quality deteriorates. Similarly, for Lombard lending, we apply a range of scenarios representing instantaneous market shocks to all collateral and exposure positions, taking into consideration their liquidity and potential concentrations. The portfolio-specific stress test for our mortgage lending business in Switzerland reflects a multi-year event, and the overarching stress test for global wholesale and counterparty credit risk to corporates uses a one-year global stress event and takes into account exposure concentrations to single counterparties.

→ **Refer to "Stress testing" in this section for more information about our stress testing framework**

Credit risk model confirmation

Our approach to model confirmation involves both quantitative methods, including monitoring compositional changes in the portfolios and the results of backtesting, and qualitative assessments, including feedback from users on the model output as a practical indicator of the performance and reliability of the model.

Material changes in a portfolio composition may invalidate the conceptual soundness of the model. We therefore perform regular analyses of the evolution of portfolios to identify such changes in the structure and credit quality of portfolios. This includes analyses of changes in key attributes, changes in portfolio concentration measures, as well as changes in RWA.

→ **Refer to "Risk measurement" in this section for more information about our approach to model confirmation procedures**

Backtesting

We monitor the performance of our models by backtesting and benchmarking them, whereby model outcomes are compared with actual results, based on our internal experience and externally observed results. To assess the predictive power of our credit exposure models for traded products such as OTC derivatives and ETD products, we statistically compare the predicted future exposure distributions at different forecast horizons with the realized values.

For PD, we use statistical modeling to derive a predicted distribution of the number of defaults. The observed number of defaults is then compared with this distribution, allowing us to derive a statistical level of confidence in the model conservatism. In addition, we derive a lower and upper bound for the average default rate. If the portfolio average PD lies outside the derived interval, the rating tool is, as a general rule, recalibrated.

For LGD, the backtesting statistically tests whether the mean difference between the observed and predicted LGD is zero. If the test fails, there is evidence that our predicted LGD is too low. In such cases, and where these differences are outside expectations, models are recalibrated.

Main credit models backtesting by regulatory asset class

	Length of time series used for the calibration (in years)	Actual rates in %			Estimated average rates at the start of 2019 in %
		Average of last 5 years[1]	Min. of last 5 years[2]	Max. of last 5 years[2]	
Probability of default[3]					
Central governments and central banks	>10[4]	0.00	0.00	0.00	0.17
Banks and securities dealers	>10	0.03	0.00	0.21	0.19
Public-sector entities, multilateral development banks	>10	0.15	0.00	0.53	0.64
Corporates: specialized lending	>10	0.32	0.15	0.60	1.21
Corporates: other lending	>10	0.25	0.21	0.29	0.46
Retail: residential mortgages	>20	0.21	0.12	0.28	0.56
Retail: other	>10	0.00	0.00	0.01	0.30
Loss given default					
Central governments and central banks	>10				51.00
Banks and securities dealers	>10				27.50
Public-sector entities, multilateral development banks	>10				48.70
Corporates: specialized lending	>10	7.40	0.00	34.60	23.20
Corporates: other lending	>10	26.40	8.00	28.00	37.70
Retail: residential mortgages	>20	0.80	0.20	1.70	20.70
Retail: other	>10	29.20	17.90	65.30	27.40
Credit conversion factors					
Corporates	>10	15.80	6.90	44.30	40.20

1 Average of all observations over the last five years. 2 Minimum / maximum annual average of observations in any single year from the last five years. Yearly averages are only calculated where five or more observations occurred during that year. 3 Average PD estimation is based on all rated clients in the portfolio. 4 Sovereign PD model is calibrated to UBS masterscale, length of time series shows span of internal history for this portfolio.

Credit conversion factors (CCFs), used for the calculation of EAD for undrawn facilities with corporate counterparties, are dependent on several contractual dimensions of the credit facility. We compare the predicted amount drawn with observed historical utilization of such facilities for defaulted counterparties. If any statistically significant deviation is observed, the relevant CCFs are redefined.

The "Main credit models backtesting by regulatory asset class" table on the previous page compares the current model calibration for PD, LGD and CCFs with historical observed values over the last five years.

Changes to models and model parameters during the period

As part of our continuous efforts to enhance models to reflect market developments and newly available data, we updated several models in the course of 2019.

In Personal & Corporate Banking and Global Wealth Management, we completed the phasing-in of RWA increases related to PD and LGD changes of the revised models for Swiss residential mortgages that were implemented in 2017. With regard to the EAD, the CCF for zero-balance securities-backed lending and margin loans in Global Wealth Management was changed from 5% to 15%.

Within the Investment Bank, selected portfolios with lower materiality levels and exposures rated by expert judgment were moved to the Standardized Approach for the RWA calculation.

Where required, changes to models and model parameters were approved by the Swiss Financial Market Supervisory Authority (FINMA) prior to implementation.

→ **Refer to "Risk-weighted assets" in the "Capital management" section of this report for more information about the effect of the changes to models and model parameters on credit risk RWA**

Future credit risk-related regulatory capital developments

In December 2017, the Basel Committee on Banking Supervision announced the finalization of the Basel III framework, which we currently expect FINMA to introduce into national law later than the originally communicated effective date of 1 January 2022. The updated framework has made a number of revisions to the internal ratings-based (IRB) approaches, namely: (i) removing the possibility of using the advanced IRB (A-IRB) approach for certain asset classes (including large and medium-sized corporate clients, banks and other financial institutions); (ii) placing floors on certain model inputs under the IRB approach, such as for PD and LGD; and (iii) introducing various requirements to reduce RWA variability (for example, for LGD).

The published framework has a number of requirements that are subject to national discretion. In addition, revisions to the credit valuation adjustment (CVA) framework were published, including the removal of the advanced CVA (A-CVA) approach. UBS maintains a close dialog with FINMA to discuss in more detail the implementation objectives and to prepare for a smooth transition of the capital regime for credit risk.

→ **Refer to "Capital management objectives, planning and activities" in the "Capital management" section of this report for more information about the development of RWA**

→ **Refer to "Risk measurement" in this section for more information about our approach to model confirmation procedures**

→ **Refer to the "Regulatory and legal developments" and "Risk factors" sections of this report for more information**

Credit policies for distressed assets

The "Exposure categorization" chart on the next page illustrates how we categorize banking products and securities financing transactions as non-performing, defaulted, credit-impaired and purchased or originated credit-impaired.

Non-performing

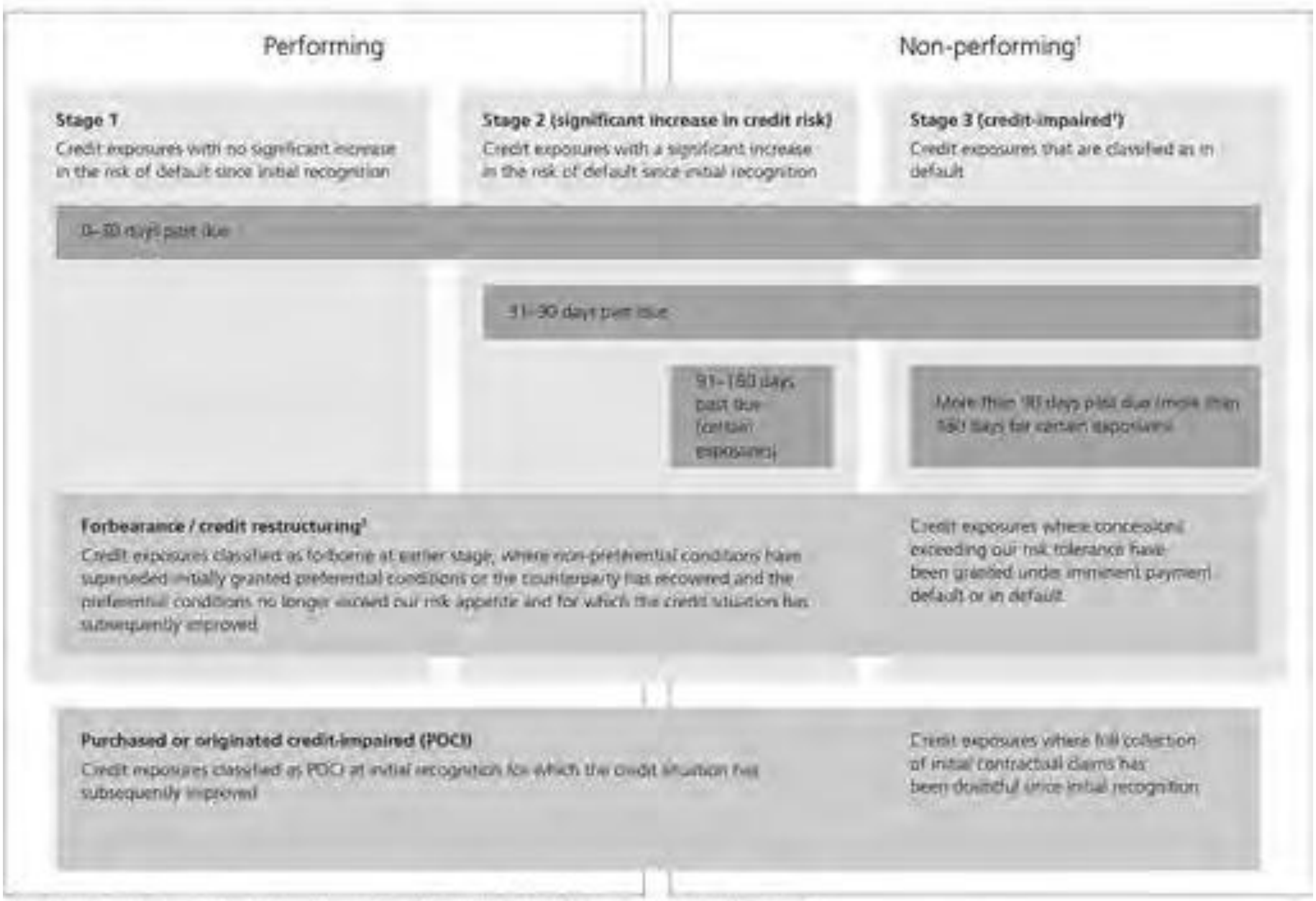
Audited | In line with the regulatory definition, we report a claim as non-performing when: (i) it is more than 90 days past due; (ii) it is subject to restructuring proceedings, where preferential conditions concerning interest rates, subordination, tenor, etc. have been granted in order to avoid default of the counterparty (forbearance); or (iii) the counterparty is subject to bankruptcy / enforced liquidation proceedings in any form, even if there is sufficient collateral to cover the due payment or there is other evidence that payment obligations will not be fully met without recourse to collateral.

Default and credit-impaired

UBS applies a single definition of default for classifying assets and determining the PD of its obligors for risk modeling purposes. The definition of default is based on quantitative and qualitative criteria. A counterparty is classified as defaulted at the latest when material payments of interest, principal or fees are overdue for more than 90 days, or more than 180 days for certain exposures in relation to loans to private and commercial clients in Personal & Corporate Banking, and to private clients of Global Wealth Management Region Switzerland. UBS does not consider the general 90-day presumption for default recognition appropriate for those latter portfolios based on an analysis of the cure rates, which demonstrated that strict application of the 90-day criterion would not accurately reflect the inherent credit risk. Counterparties are also classified as defaulted when: bankruptcy, insolvency proceedings or enforced liquidation have commenced; obligations have been restructured on preferential terms (forbearance); or there is other evidence that payment obligations will not be fully met without recourse to collateral. The latter may be the case even if, to date, all contractual payments have been made when due. If one claim against a counterparty is defaulted on, generally all claims against the counterparty are treated as defaulted.

An instrument is classified as credit-impaired if the counterparty is classified as defaulted, and/or the instrument is identified as purchased or originated credit-impaired (POCI). An instrument is POCI if it has been purchased at a deep discount to its carrying amount following a risk event of the issuer or originated with a defaulted counterparty. Once a financial asset is classified as defaulted / credit-impaired (except POCI), it is reported as a stage 3 instrument and remains as such unless all past due amounts have been rectified, additional payments have been made on time, the position is not classified as credit-restructured, and there is general evidence of credit recovery. A three-month probation period is applied before a transfer back to stages 1 or 2 can be triggered. However, most instruments remain in stage 3 for a longer period. ▲

Exposure categorization



1 Excluding purchased or originated credit-impaired instruments. 2 May include purchased or originated credit-impaired instruments.

Forbearance (credit restructuring)

Audited | Under imminent payment default or where default has already occurred, we may grant concessions to borrowers in financial difficulties that we would otherwise not consider in the normal course of our business, such as offering preferential interest rates, extending maturity, modifying the schedule of repayments, debt / equity swap, subordination, etc. When a forbearance measure takes place, each case is considered individually and the exposure is generally classified as defaulted. Forbearance classification will remain until the loan is collected or written off, non-preferential conditions are granted that supersede the preferential conditions or until the counterparty has recovered and the preferential conditions no longer exceed our risk tolerance.

Contractual adjustments when there is no evidence of imminent payment default, or where changes to terms and conditions are within our usual risk tolerance, are not considered to be forborne. ▲

Loss history statistics

An instrument is classified as credit-impaired if the counterparty has defaulted. This also includes credit-impaired exposures for which no loss has occurred or for which no allowance has been recognized (e.g., because they are expected to be fully recoverable through the collateral held).

The "Loss history statistics" table below provides a five-year history of our credit loss experience for loans and advances to banks and customers, and ratios of those credit losses relative to our credit-impaired and non-performing loans and advances to banks and customers. For the years 2015 to 2017, the amounts are based on IAS 37 and IAS 39; for 2018 and 2019, the amounts are based on IFRS 9.

Credit-impaired loans and advances to banks and customers were USD 2.3 billion as of 31 December 2019, unchanged compared with 31 December 2018.

The majority of the credit-impaired exposure relates to loans and advances in our Swiss domestic business. The ratio of credit-impaired loans and advances to banks and customers to total loans and advances to banks and customers was 0.7%, unchanged compared with 31 December 2018.

→ **Refer "Note 10 Financial assets at amortized cost and other positions in scope of expected credit loss measurement" and "Note 23 Expected credit loss measurement" in the "Consolidated financial statements" section of this report for more information about ECL measurement**

→ **Refer to "Note 17a Other financial assets measured at amortized cost" in the "Consolidated financial statements" section of this report for more details**

Loss history statistics

USD million, except where indicated	31.12.19 IFRS 9	31.12.18 IFRS 9	31.12.17 IAS 37, IAS 39	31.12.16 IAS 37, IAS 39	31.12.15 IAS 37, IAS 39
Loans and advances to banks and customers (gross)	340,003	338,000	342,604	314,485	324,059
Credit-impaired loans and advances to banks and customers	2,309	2,300	1,104	958	1,224
Non-performing loans and advances to banks and customers	2,466	2,419	2,149	2,357	1,627
ECL allowances and provisions for credit losses[1,2]	1,029	1,054	712	642	726
of which: allowances for loans and advances to banks and customers[1]	*770*	*780*	*678*	*589*	*691*
Write-offs[3]	142	210	101	121	116
of which: write-offs for loans and advances to banks and customers	*122*	*192*	*101*	*121*	*116*
Credit loss (expense) / recovery[4]	(78)	(118)	(131)	(38)	(118)
Ratios					
Credit-impaired loans and advances to banks and customers as a percentage of loans and advances to banks and customers (gross)	0.7	0.7	0.3	0.3	0.4
Non-performing loans and advances to banks and customers as a percentage of loans and advances to banks and customers (gross)	0.7	0.7	0.6	0.7	0.5
ECL allowances for loans and advances to banks and customers as a percentage of loans and advances to banks and customers (gross)	0.2	0.2	0.2	0.2	0.2
Net write-offs as a percentage of average loans and advances to banks and customers (gross) outstanding during the period	0.0	0.1	0.0	0.0	0.0

1 Includes collective loan loss allowances (until 31 December 2017). Until 31 December 2017 did not include allowances for other receivables (31 December 2017: USD 19 million; 31 December 2016: USD 0 million; 31 December 2015: USD 0 million). 2 Includes provisions for ECL of guarantees and loan commitments and allowances for securities financing transactions. 3 Includes net write-offs for loan commitments and securities financing transactions. 4 Includes credit loss (expense) / recovery for other financial assets at amortized cost, guarantees, loan commitments, and securities financing transactions.

Market risk

Key developments

Market risk remained at low levels as a result of our continued focus on managing tail risks. Average management VaR (1-day, 95% confidence level) decreased to USD 11 million from USD 12 million in the prior year, mainly driven by the Investment Bank's Equities business. The number of negative backtesting exceptions within a 250-business-day window decreased from 2 to 0 by the end of the year. The FINMA VaR multiplier for market risk RWA remained unchanged at 3 as of 31 December 2019.

Audited | Main sources of market risk

Market risks arise from both our trading and non-trading business activities.

- Trading market risks arise mainly in connection with primary debt and equity underwriting, securities and derivatives trading for market-making and client facilitation within our Investment Bank, as well as the remaining positions within Non-core and Legacy Portfolio in Corporate Center and our municipal securities trading business within Global Wealth Management.
- Non-trading market risks arise predominantly in the form of interest rate and foreign exchange risks in connection with personal banking and lending in our wealth management businesses, our personal and corporate banking business in Switzerland and the Investment Bank's lending business, in addition to treasury activities.
- Group Treasury assumes market risks in the process of managing interest rate risk, structural foreign exchange risk and the liquidity and funding profile (including high-quality liquid assets) of the Group.
- Equity and debt investments can also give rise to market risks, as can some aspects of our employee benefits, such as defined benefit pension schemes. ▲

Audited | Overview of measurement, monitoring and management techniques

- Market risk limits are set for the Group, the business divisions, Group Treasury and Non-core and Legacy Portfolio at granular levels within the various business lines, reflecting the nature and magnitude of the market risks.
- Management VaR measures exposures under the market risk framework. This includes trading market risks and parts of non-trading market risks. Non-trading market risks not included in VaR are also covered in the risks controlled by Market & Treasury Risk Control as set out further below.
- Our primary portfolio measures of market risk are liquidity-adjusted stress (LAS) loss and VaR. Both are common to all our business divisions and subject to limits that are approved by the Board of Directors (the BoD).
- These measures are complemented by concentration and granular limits for general and specific market risk factors. Our trading businesses are subject to multiple market risk limits. These limits take into account the extent of market liquidity and volatility, available operational capacity, valuation uncertainty and, for our single-name exposures, the credit quality of issuers.
- Trading market risks are managed on an integrated basis at a portfolio level. As risk factor sensitivities change due to new transactions, transaction expiries or changes in market levels, risk factors are dynamically rehedged to remain within limits. Accordingly, in the trading portfolio, we do not generally seek to distinguish between specific positions and associated hedges.
- Issuer risk is controlled by limits applied at the business division level based on jump-to-zero measures, which estimate our maximum default exposure (the loss in the case of a default event assuming zero recovery).
- Non-trading foreign exchange risks are managed under market risk limits, with the exception of Group Treasury management of consolidated capital activity.

Our Market & Treasury Risk Control function applies a holistic risk framework, which sets the appetite for treasury-related risk-taking activities across the Group. A key element of the framework is an overarching economic value sensitivity limit, set by the BoD. This limit is linked to the level of Basel III common equity tier 1 (CET1) capital, and takes into account risks arising from interest rates, foreign exchange and credit spreads. In addition, the sensitivity of net interest income to changes in interest rates is monitored against targets set by the Group Chief Executive Officer, in order to analyze the outlook and volatility of net interest income based on market-expected interest rates. Limits are also set by the BoD to balance the effect of foreign exchange movements on our CET1 capital and CET1 capital ratio. Non-trading interest rate and foreign exchange risks are included in our Group-wide statistical and stress testing metrics, which flow into our risk appetite framework.

Equity and debt investments are subject to a range of risk controls, including preapproval of new investments by business management and Risk Control and regular monitoring and reporting. They are also included in our Group-wide statistical and stress testing metrics, which flow into our risk appetite framework. ▲

→ **Refer to "Currency management" in the "Treasury management" section of this report for more information about Group Treasury's management of foreign exchange risks**

→ **Refer to the "Capital management" section of this report for more information about the sensitivity of our CET1 capital and CET1 capital ratio to currency movements**

Market risk stress loss

In addition to VaR, which is discussed below, we measure and manage our market risks through a comprehensive framework of non-statistical measures and related limits. This includes an extensive series of stress tests and scenario analyses, which we continuously evaluate with the intention of ensuring that any losses resulting from an extreme yet plausible event do not exceed our risk appetite.

Liquidity-adjusted stress

Our primary measure of stress loss for Group-wide market risk is LAS. The LAS framework is designed to capture the economic losses that could arise under specified stress scenarios. This is in part achieved by replacing the standard one-day and 10-day holding period assumptions used for management and regulatory VaR, with liquidity-adjusted holding periods, as explained below. Shocks are then applied to positions based on the expected market movements over the liquidity-adjusted holding periods resulting from the specified scenario.

The holding periods used in LAS are calibrated to reflect the amount of time it would take to reduce or hedge the risk of positions in each major risk factor in a stressed environment, assuming maximum utilization of the relevant position limits. We also apply minimum holding periods, regardless of observed liquidity levels, reflecting the fact that identification of and reaction to a crisis may not always be immediate.

The expected market movements are derived using a combination of historical market behavior, based on an analysis of historical events, and forward-looking analysis that includes consideration of defined scenarios that have not occurred historically.

LAS-based limits are applied at a number of levels: Group, business division, Group Treasury and Non-core and Legacy Portfolio; business area; and sub-portfolio. In addition, LAS forms the core market risk component of our combined stress test framework and is therefore integral to our overall risk appetite framework.

→ **Refer to "Risk appetite framework" in this section for more information**

→ **Refer to "Stress testing" in this section for more information about our stress testing framework**

Value-at-risk

VaR definition

Audited | VaR is a statistical measure of market risk, representing the market risk losses that could potentially be realized over a set time horizon (holding period) at an established level of confidence. The measure assumes no change in the Group's trading positions over the set time horizon.

We calculate VaR on a daily basis. The profit or loss distribution from which VaR is derived is generated by our internally developed VaR model. The VaR model simulates returns over the holding period of those risk factors to which our trading positions are sensitive, and subsequently quantifies the profit or loss effect of these risk factor returns on the trading positions. Risk factor returns associated with the risk factor classes of general interest rates, foreign exchange and commodities are based on a pure historical simulation approach, taking into account a five-year look-back window. Risk factor returns for selected issuer-based risk factors, such as equity price and credit spreads, are decomposed into systematic and residual, issuer-specific components using a factor model approach. Systematic returns are based on historical simulation, and residual returns are based on a Monte Carlo simulation. The VaR model profit or loss distribution is derived from the sum of the systematic and residual returns in such a way that we consistently capture systematic and residual risk. Correlations among risk factors are implicitly captured via the historical simulation approach. In modeling the risk factor returns, we consider the stationarity properties of the historical time series of risk factor changes. Depending on the stationarity properties of the risk factors within a given risk factor class, we choose to model the risk factor returns using absolute returns or logarithmic returns. The risk factor return distributions are updated on a fortnightly basis.

Although our VaR model does not have full revaluation capability, we source full revaluation grids and sensitivities from our front-office systems, enabling us to capture material non-linear profit or loss effects.

We use a single VaR model for both internal management purposes and determining market risk risk-weighted assets (RWA), although we consider different confidence levels and time horizons. For internal management purposes, we establish risk limits and measure exposures using VaR at the 95% confidence level with a one-day holding period, aligned to the way we consider the risks associated with our trading activities. The regulatory measure of market risk used to underpin the market risk capital requirement under Basel III requires a measure equivalent to a 99% confidence level using a 10-day holding period. In the calculation of a 10-day holding period VaR, we employ 10-day risk factor returns, whereby all observations are equally weighted.

Additionally, the population of the portfolio within management and regulatory VaR is slightly different. The population within regulatory VaR meets regulatory requirements for inclusion in regulatory VaR. Management VaR includes a broader population of positions. For example, regulatory VaR excludes the credit spread risks from the securitization portfolio, which are treated instead under the securitization approach for regulatory purposes.

We also use stressed VaR (SVaR) for the calculation of market risk RWA. SVaR adopts broadly the same methodology as regulatory VaR and is calculated using the same population, holding period (10-day) and confidence level (99%). However, unlike regulatory VaR, the historical data set for SVaR is not limited to five years, but instead spans the time period from 1 January 2007 to the present. In deriving SVaR, we search for the largest 10-day holding period VaR for the current Group portfolio across all one-year look-back windows that fall into the interval from 1 January 2007 to the present. SVaR is computed weekly. ▲

→ **Refer to the 31 December 2019 Pillar 3 report, available under "Pillar 3 disclosures" at *www.ubs.com/investors*, for more information about the regulatory capital calculation under the advanced internal ratings-based approach**

Management VaR for the period

The tables below show minimum, maximum, average and period-end management VaR by business division and Corporate Center, and by general market risk type. We continued to manage management VaR at low levels with average VaR decreasing to USD 11 million from USD 12 million in the prior year.

Audited |

Management value-at-risk (1-day, 95% confidence, 5 years of historical data) of our business divisions and Corporate Center by general market risk type[1]

	For the year ended 31.12.19								
USD million	Min.	Max.	Average	31.12.19	Equity	Interest rates	Credit spreads	Foreign exchange	Commodities
Min.					2	6	3	2	1
Max.					14	12	8	8	6
Average					6	9	5	3	2
31.12.19					5	8	5	3	3
Total management VaR, Group	6	18	11	9	*Average (per business division and risk type)*				
Global Wealth Management	0	1	1	1	*0*	*1*	*1*	*0*	*0*
Personal & Corporate Banking	0	0	0	0	*0*	*0*	*0*	*0*	*0*
Asset Management	0	0	0	0	*0*	*0*	*0*	*0*	*0*
Investment Bank	4	17	9	7	*6*	*7*	*4*	*3*	*2*
Corporate Center	4	8	5	5	*1*	*5*	*2*	*1*	*0*
Diversification effect[2,3]			(5)	(4)	*(1)*	*(4)*	*(2)*	*(1)*	*0*

	For the year ended 31.12.18								
USD million	Min.	Max.	Average	31.12.18	Equity	Interest rates	Credit spreads	Foreign exchange	Commodities
Min.					3	5	5	1	1
Max.					22	11	9	13	4
Average					8	8	7	3	2
31.12.18					5	7	5	6	2
Total management VaR, Group	5	26	12	12	*Average (per business division and risk type)*				
Global Wealth Management	0	2	1	1	*0*	*1*	*2*	*0*	*0*
Personal & Corporate Banking	0	0	0	0	*0*	*0*	*0*	*0*	*0*
Asset Management	0	0	0	0	*0*	*0*	*0*	*0*	*0*
Investment Bank	4	25	11	10	*8*	*6*	*6*	*3*	*2*
Corporate Center	4	7	5	6	*1*	*4*	*2*	*1*	*0*
Diversification effect[2,3]			(5)	(5)	*(1)*	*(4)*	*(3)*	*(1)*	*0*

1 Statistics at individual levels may not be summed to deduce the corresponding aggregate figures. The minima and maxima for each level may well occur on different days, and likewise, the VaR for each business line or risk type, being driven by the extreme loss tail of the corresponding distribution of simulated profits and losses for that business line or risk type, may well be driven by different days in the historical time series, rendering invalid the simple summation of figures to arrive at the aggregate total. 2 Difference between the sum of the standalone VaR for the business divisions and Corporate Center and the VaR for the Group as a whole. 3 As the minimum and maximum occur on different days for different business divisions and Corporate Center, it is not meaningful to calculate a portfolio diversification effect.

▲

VaR limitations

Audited | Actual realized market risk losses may differ from those implied by our VaR for a variety of reasons.

- The VaR measure is calibrated to a specified level of confidence and may not indicate potential losses beyond this confidence level.
- The one-day time horizon used for VaR for internal management purposes, or 10-day in the case of the regulatory VaR measure, may not fully capture the market risk of positions that cannot be closed out or hedged within the specified period.
- In certain cases, VaR calculations approximate the effect of changes in risk factors on the values of positions and portfolios. This may happen because the number of risk factors included in the VaR model is necessarily limited.
- The effect of extreme market movements is subject to estimation errors, which may result from non-linear risk sensitivities, as well as the potential for actual volatility and correlation levels to differ from assumptions implicit in the VaR calculations.
- The use of a five-year window means that sudden increases in market volatility will tend not to increase VaR as quickly as the use of shorter historical observation periods, but the increase will affect our VaR for a longer period of time. Similarly, following a period of increased volatility, as markets stabilize, VaR predictions will remain more conservative for a period of time influenced by the length of the historical observation period.

SVaR is subject to the same limitations as noted for VaR above, but the use of one-year data sets avoids the smoothing effect of the five-year data set used for VaR, and the absence of the five-year window provides a longer history of potential loss events. Therefore, although the significant period of stress during the financial crisis of 2007–2009 is no longer contained in the historical five-year period used for management and regulatory VaR, SVaR will continue to use this data. This approach is intended to reduce the procyclicality of the regulatory capital requirements for market risks.

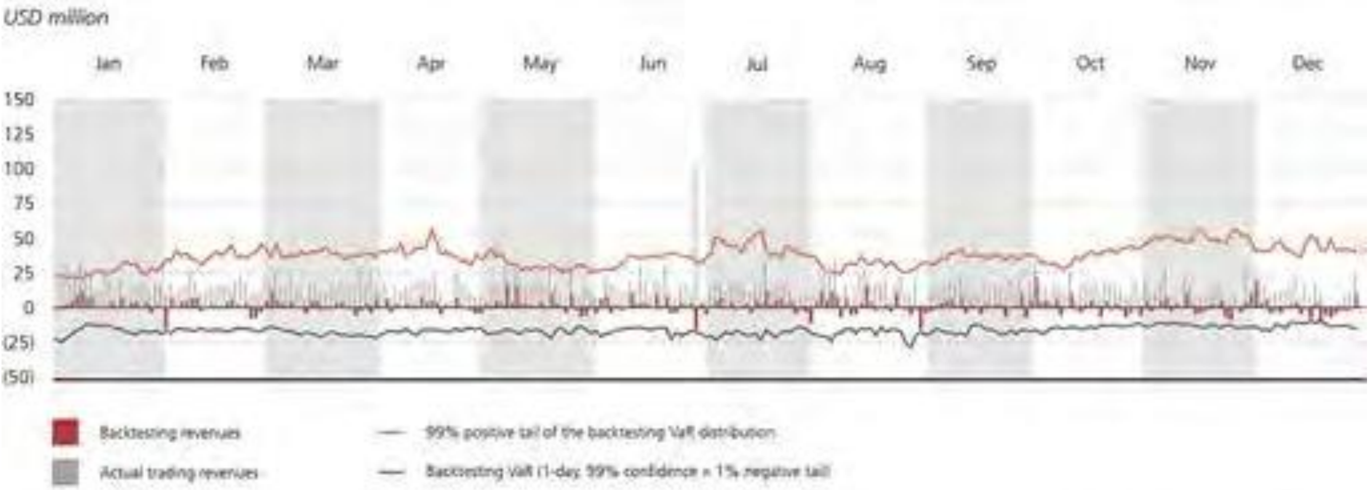
We recognize that no single measure may encompass the entirety of risks associated with a position or portfolio. Consequently, we employ a suite of various metrics with both overlapping and complementary characteristics in order to create a holistic framework that seeks to ensure material completeness of risk identification and measurement. As a statistical aggregate risk measure, VaR supplements our liquidity-adjusted stress and comprehensive stress testing frameworks.

We also have a framework to identify and quantify potential risks that are not fully captured by our VaR model. We refer to these risks as risks-not-in-VaR. This framework is used to underpin these potential risks with regulatory capital, calculated as a multiple of regulatory VaR and stressed VaR. ▲

Backtesting of VaR

VaR backtesting is a performance measurement process in which the 1-day VaR prediction is compared with the realized 1-day profit or loss (P&L). We compute backtesting VaR using a 99% confidence level and one-day holding period for the population included within regulatory VaR. Since 99% VaR at UBS is defined as a risk measure that operates on the lower tail of the P&L distribution, 99% backtesting VaR is a negative number. Backtesting revenues exclude non-trading revenues, such as valuation reserves, fees and commissions and revenues from intraday trading, to provide for a like-for-like comparison. A backtesting exception occurs when backtesting revenues are lower than the previous day's backtesting VaR.

Group: development of regulatory backtesting revenues[1] and actual trading revenues[2] against backtesting VaR[3] (1-day, 99% confidence)



1 Excludes non-trading revenues, such as valuation reserves, commissions and fees, and revenues from intraday trading. 2 Includes backtesting revenues and revenues from intraday trading. 3 Based on Basel III regulatory VaR, excludes CVA positions and their eligible hedges that are subject to the standalone CVA charge.

Statistically, given the confidence level of 99%, two or three backtesting exceptions per year can be expected. More than four exceptions could indicate that the VaR model is not performing appropriately, as could too few exceptions over a prolonged period of time. However, as noted in the VaR limitations above, a sudden increase or decrease in market volatility relative to the five-year window could lead to a higher or lower number of exceptions, respectively. Accordingly, Group-level backtesting exceptions are investigated, as are exceptional positive backtesting revenues, with results being reported to senior business management, the Group Chief Risk Officer and the Group Chief Market & Treasury Risk Officer. Backtesting exceptions are also reported to internal and external auditors and to the relevant regulators.

The "Group: development of regulatory backtesting revenues and actual trading revenues against backtesting VaR" chart on the previous page shows the 12-month development of backtesting VaR against the Group's backtesting revenues and actual trading revenues for 2019. The chart shows both the 99% and the 1% backtesting VaR. The asymmetry between the negative and positive tails is due to the long gamma risk profile that has been run historically in the Investment Bank.

The actual trading revenues include, in addition to backtesting revenues, intraday revenues.

The number of negative backtesting exceptions within a 250-business-day window decreased from 2 to 0 by the end of the year. The FINMA VaR multiplier for market risk RWA remained unchanged at 3 as of 31 December 2019.

VaR model confirmation

In addition to backtesting performed for regulatory purposes as described above, we also conduct extended backtesting for our internal model confirmation purposes. This includes observing model performance across the entire P&L distribution, not just the tails, and at multiple levels within the business division and Corporate Center hierarchies.

→ **Refer to "Risk measurement" in this section for more information about our approach to model confirmation procedures**

VaR model developments in 2019

Audited | We did not make any material changes to the VaR model in 2019. ▲

Future market risk-related regulatory capital developments

In January 2019, the Basel Committee on Banking Supervision published the final rules on the minimum capital requirements for market risk (the Fundamental Review of the Trading Book). As per the Swiss timelines for adopting Basel III, the new accord is expected to enter into force on 1 January 2023 at the earliest.

Key elements of the revised market risk framework include: (i) changes to the internal model-based approach, including changes to the model approval and performance measurement process; (ii) changes to the standardized approach with the aim of it being a credible fallback method for an internal model-based approach; and (iii) a revised boundary between trading book and banking book. UBS maintains a close dialog with FINMA to discuss the implementation objectives in more detail and to provide a smooth transition of the capital regime for market risk.

→ **Refer to "Capital management objectives, planning and activities" in the "Capital management" section of this report for more information about the development of RWA**

→ **Refer to "Risk measurement" in this section for more information about our approach to model confirmation procedures**

→ **Refer to the "Regulatory and legal developments" and "Risk factors" sections of this report for more information**

Interest rate risk in the banking book

Changes to our interest rate risk in the banking book disclosure

Based on the 2016 standards of the Basel Committee on Banking Supervision, FINMA published the revised Circular "2019/2 Interest Rate Risk – Banks," which sets out minimum standards for the measurement, management, monitoring and control of interest rate risks in the banking book (IRRBB). This circular came into effect in January 2019, with the first enhanced Pillar 3 disclosure provided in our 30 June 2019 Pillar 3 report.

We have aligned the IRRBB disclosure in our financial reports to the new Pillar 3 requirements. In particular, the economic value of equity (EVE) sensitivity is assessed under six regulatory rate-shock scenarios defined by FINMA in the circular, which are currency-specific and not subject to flooring.

Sources of interest rate risk in the banking book

Audited | IRRBB arises from balance sheet positions such as *Loans and advances to banks*, *Loans and advances to customers*, *Financial assets at fair value not held for trading*, *Financial assets measured at amortized cost*, *Customer deposits*, *Debt issued measured at amortized cost*, and derivatives, including those used for cash flow hedge accounting purposes. These positions may affect other comprehensive income (OCI) or the income statement, depending on their accounting treatment.

Our largest banking book interest rate exposures arise from customer deposits and lending products in Global Wealth Management and Personal & Corporate Banking. The inherent interest rate risks are generally transferred from Global Wealth Management and Personal & Corporate Banking to Group Treasury, to manage them centrally within Corporate Center. This allows for the netting of interest rate risks across different sources, while leaving the originating businesses with commercial margin and volume management. The residual interest rate risk is mainly hedged with interest rate swaps, to the vast majority of which we apply hedge accounting. Short-term exposures and high-quality liquid assets classified as *Financial assets at fair value not held for trading* are hedged with derivatives accounted for on a mark-to-market basis. Long-term fixed-rate debt issued is hedged with interest rate swaps designated in fair value hedge accounting relationships.

Risk management and governance

IRRBB is measured using a number of metrics, the most relevant of which are the following:

- Interest rate sensitivities to parallel shifts in yield curves, calculated as changes in the present value of future cash flows irrespective of accounting treatment. These are also the key risk factors for statistical and stress-based measures, such as value-at-risk and stress scenarios (including EVE sensitivity), and are measured and reported with a daily frequency. EVE sensitivity is the exposure arising from the most adverse regulatory interest rate scenario after netting across currencies. In addition to the regulatory measure, we apply an internal EVE sensitivity metric that includes equity, goodwill, real estate and additional tier 1 (AT1) capital instruments.
- Net interest income (NII) sensitivity assesses the change in NII over a set time horizon compared with the baseline NII, which we internally calculate by assuming that interest rates in all currencies develop according to their market-implied forward rates and under the assumption of constant business volumes and no specific management actions. The internal NII sensitivity, which includes the contribution from cash held at central banks, unlike the Pillar 3 disclosure requirements, is measured and reported on a monthly basis.

We actively manage IRRBB, with the objective of reducing the volatility of NII, while keeping the EVE sensitivity within set internal risk limits.

EVE and NII sensitivity are monitored against limits and triggers, both at consolidated and at significant legal entity levels. We also assess the sensitivity of EVE and NII under stressed market conditions by applying a suite of parallel and non-parallel interest rate scenarios, as well as specific economic scenarios.

The Interest Rate Risk in the Banking Book Strategy Committee, which is a sub-committee of the Group Asset and Liability Committee (ALCO), and, where relevant, ALCOs at a legal entity level, perform independent oversight over the management of IRRBB. IRRBB is also subject to Group Internal Audit and model governance.

→ **Refer to "Group Internal Audit" in the "Corporate governance" section of this report and to "Risk measurement" in this section for more information**

Key modeling assumptions

The cash flows from customer deposits and lending products used in the calculation of EVE sensitivity exclude commercial margins and other spread components, are aggregated for each business day and are discounted using risk-free rates. Our external issuances are discounted using UBS's senior debt curve, and capital instruments are modeled to the first call date. NII sensitivity is calculated over a one-year time horizon, assuming constant balance sheet structure and volumes, and considers the flooring effect of embedded interest rate options.

The average repricing maturity of non-maturing deposits and loans is determined via replication portfolio strategies that are designed to protect product margin. Optimal replicating portfolios are determined at a granular currency- and product-specific level by simulating and applying a real-world market rate model to historically calibrated client rate and volume models.

We use an econometric prepayment model to forecast prepayment rates on US mortgage loans in UBS Bank USA, as well as agency mortgage-backed securities (MBSs) held in various liquidity portfolios of UBS Americas Holding LLC consolidated. These prepayment rates are used to forecast both mortgage loan and MBS balances under various macroeconomic scenarios. The prepayment model is used for a variety of purposes, including risk management and regulatory stress testing. Mortgages in Switzerland and fixed-term deposits generally do not carry similar optionality, due to prepayment and early redemption penalties. ▲

Effect of interest rate changes on shareholders' equity and CET1 capital

The "Accounting and capital effect of changes in interest rates" table below illustrates the effects on shareholders' equity and CET1 capital of gains and losses resulting from changes in interest rates in the main banking book positions. For instruments held at fair value, a change in interest rates results in an immediate fair value gain or loss recognized either in the income statement or through OCI. Typically, increases in interest rates would lead to an immediate reduction in the value of our long-term assets held at fair value, but we would expect such reduction to be offset over time through higher NII on our core banking products.

For assets and liabilities measured at amortized cost, a change in interest rates does not result in a change in the carrying amount of the instruments, but could affect the amount of interest income or expense recognized over time in the income statement.

In addition to the differing accounting treatments, our banking book positions have different sensitivities to different points on yield curves. For example, our portfolios of debt securities, whether measured at amortized cost or at fair value, and interest rate swaps, whether designated as cash flow hedges or transacted as economic hedges, are, on the whole, more sensitive to changes in longer-duration interest rates, whereas our deposits and a significant portion of our loans contributing to NII are more sensitive to short-term rates. These factors are important, as yield curves may not shift on a parallel basis and could, for example, exhibit an initial steepening, followed by a flattening over time.

By virtue of the accounting treatment and yield curve sensitivities outlined above, in a rising rate scenario, we would expect to recognize an initial decrease in shareholders' equity as a result of fair value losses recognized in OCI. This would be compensated over time by increased NII as increases in interest rates affect the shorter end of the yield curve in particular. The effect on CET1 capital would be less pronounced, as gains and losses on interest rate swaps designated as cash flow hedges are not recognized for regulatory capital purposes. Fair value losses on instruments designated at fair value are expected to be offset by economic hedges.

Accounting and capital effect of changes in interest rates[1]

	Recognition		Shareholders' equity		CET1 capital	
	Timing	Income statement / OCI	Gains	Losses	Gains	Losses
Loans and deposits at amortized cost[2,3]	Gradual	Income statement	●	●	●	●
Other financial assets and liabilities measured at amortized cost[2]	Gradual	Income statement	●	●	●	●
Debt issued measured at amortized cost[2,3]	Gradual	Income statement	●	●	●	●
Receivables and payables from securities financing transactions[2]	Gradual	Income statement	●	●	●	●
Financial assets at fair value not held for trading	Immediate	Income statement	●	●	●	●
Financial assets at fair value through other comprehensive income	Immediate	OCI	●	●		●
Derivatives designated as cash flow hedges	Immediate	OCI[4]	●	●		
Derivatives transacted as economic hedges	Immediate	Income statement	●	●	●	●

1 Refer to the "Reconciliation of IFRS equity to Swiss SRB common equity tier 1 capital" table in the "Capital management" section of this report for more information on the differences between shareholders' equity and CET1 capital. 2 For fixed-rate financial instruments, changes in interest rates affect the income statement when these instruments roll over and reprice. 3 For hedge accounted items, a fair value adjustment is applied in line with the treatment of the hedging derivatives. 4 Excluding hedge ineffectiveness that is recognized in the income statement in accordance with IFRS.

Net interest income sensitivity

At the end of 2019, the net interest income sensitivity of Global Wealth Management and Personal & Corporate Banking was assessed under the following scenarios:

– Negative Interest Rates: Yield curves drop 100 basis points in parallel with no zero-floor applied and therefore can become negative, or more negative.
– Rates Bull Flattener: Yield curves across all currencies undergo a sharp decrease for long tenors, with a lower decrease at the short end of the curve: –70 basis points for tenors up to 3 months, –100 basis points for the 3-year tenor and –130 basis points for +10-year tenors.
– Rates Bull Steepener: Yield curves across all currencies undergo a sharp decrease for short tenors, with a lower decrease at the long end of the curve: –130 basis points for tenors up to 3 months, –100 basis points for the 3-year tenor and –70 basis points for +10-year tenors.
– Rates Bear Steepener: Yield curves across all currencies undergo a sharp increase for long tenors, with a lower increase at the short end of the curve: +70 basis points for tenors up to 3 months, +100 basis points for the 3-year tenor and +130 basis points for +10-year tenors.
– Rates Bear Flattener: Yield curves across all currencies undergo a sharp increase for short tenors, with a lower increase at the long end of the curve: +130 basis points for tenors up to 3 months, +100 basis points for the 3-year tenor and +70 basis points for +10-year tenors.
– Parallel +100 basis points: All yield curves rise 100 basis points in parallel.
– Constant Rates: All rates stay at current levels.

With the exception of the Constant Rates scenario, immediately after the shock, interest rates evolve according to market-implied forward rates of that scenario.

The results are compared with a baseline NII, which is calculated assuming that interest rates in all currencies develop according to their market-implied forward rates and under the assumption of constant business volumes and no specific management actions. Over a one-year horizon, the most adverse scenario is the Rates Bull Steepener, resulting in a deterioration in Baseline NII of approximately 9%, while the most beneficial scenario is the Rates Bear Flattener, which would lead to an improvement in Baseline NII of approximately 10%. In addition to the above scenario analysis, we also monitor the sensitivity of NII to immediate parallel shocks of −200 and +200 basis points against the defined thresholds, under the assumption of a constant balance sheet volume and structure.

As of 31 December 2019, the baseline NII would have been approximately 16% lower under a parallel shock of −200 basis points, whereas under a parallel +200-basis-point shock, the baseline NII would have been approximately 23% higher.

To shelter the level of our NII from the persistently low and negative interest rate environment in Swiss francs in particular, we rely on the self-funding of our lending businesses through our deposit base in Global Wealth Management and Personal & Corporate Banking, along with appropriate additional adjustments to our interest rate-linked product pricing. The loss of such equilibrium on the balance sheet, for example, due to unattractive pricing relative to our peers for either our mortgages or deposits, could lead to a decrease in our NII in a persistently low and negative interest rate environment. As we assume constant business volumes, these risks do not appear in the aforementioned interest rate scenarios.

Moreover, should the low and negative interest rate environment persist or worsen, this could lead to additional pressure on our NII and we could face additional costs for holding our Swiss franc high-quality liquid asset portfolio. A reduction of the Swiss National Bank's deposit exemption threshold for banks would also reduce our NII as we might not be able to offset the higher costs for our cash holdings, for example, by passing on some of the costs to our depositors. Should euro interest rates also decline significantly further into negative territory, this could likewise increase our liquidity costs and put our NII generated from euro-denominated loans and deposits under pressure. Depending on the overall economic and market environment, sustained and significant negative rates could also lead to our Global Wealth Management and Personal & Corporate Banking clients paying down their loans together with reducing any excess cash they hold with us as deposits. This would reduce the underlying business volume and lower our NII accordingly.

The NII impact of a net decrease in deposits would depend on various factors including the currency, its interest rate level, as well as the balance sheet situation, as this could be offset by a reduction in negative-yielding liquidity portfolios or require alternative funding. In the latter case, the cost would also significantly depend on the term and nature of the replacement funding, whether such funding is raised in the wholesale markets or from swapping with available funding denominated in another currency. On the other hand, imbalances leading to an excess deposit position could require additional investments at negative yields, which we might not be able to compensate for sufficiently through our excess deposit balance charging mechanisms.

Economic value sensitivity

Audited |. Interest rate risk in the banking book is subject to a regulatory threshold of 15% of tier 1 capital to identify outlier banks. The exposure is calculated as the theoretical change in the present value of the banking book under the most adverse of the six FINMA interest rate scenarios.

As of 31 December 2019, the interest rate sensitivity of our banking book to a +1-basis-point parallel shift in yield curves was negative USD 25.1 million. The reported interest rate sensitivity excludes the AT1 capital instruments, as per FINMA Pillar 3 disclosure requirements, and our equity, goodwill and real estate with a modeled sensitivity of approximately USD 4 million per basis point in Swiss francs and USD 15 million per basis point in US dollars.

The most adverse of the six FINMA interest rate scenarios with regard to EVE was the "Parallel up" scenario, resulting in a change of the economic value of equity of negative USD 5.0 billion, representing a pro forma reduction of 9.6% of tier 1 capital, which is well below the regulatory outlier test of 15% of tier 1 capital. The immediate effect of the "Parallel up" scenario on tier 1 capital as of 31 December 2019 would be a reduction of 1.3%, or USD 0.7 billion, arising from the part of our banking book that is measured at fair value through profit or loss and from the financial assets measured at fair value through other comprehensive income. This scenario would, however, have had a positive effect on net interest income. ▲

→ **Refer to "Note 14 Financial assets measured at fair value through other comprehensive income" in the "Consolidated financial statements" section of this report for more information**

→ **Refer to the "Group performance" section of this report for more information about sensitivity to interest rate movements**

Audited |

Interest rate risk – banking book

USD million	+1 bp	Parallel up[1]	Parallel down[1]	Steepener[2]	Flattener[3]	Short-term up[4]	Short-term down[5]
CHF	(3.3)	(463.1)	519.6	(235.7)	143.9	(44.7)	47.6
EUR	(0.4)	(73.6)	79.3	(5.3)	(7.3)	(28.0)	29.5
GBP	0.1	8.9	(23.0)	(6.7)	6.4	11.5	(11.0)
USD	(20.8)	(4,317.5)	3,570.0	(566.9)	(450.5)	(2,019.7)	2,132.4
Other	(0.8)	(157.9)	169.9	(1.4)	(29.8)	(85.0)	93.5
Total effect on economic value of equity as per Pillar 3 requirement as of 31.12.19	(25.1)	(5,003.2)	4,315.9	(816.1)	(337.2)	(2,166.0)	2,292.0
Additional tier 1 (AT1) capital instruments	5.0	954.3	(1,024.6)	(42.2)	253.5	610.8	(638.5)
Total including AT1 capital instruments as of 31.12.19	(20.1)	(4,048.9)	3,291.2	(858.3)	(83.7)	(1,555.2)	1,653.5

1 Rates across all tenors move by ±150 bps for Swiss franc, ±200 bps for euro and US dollar and ±250 bps for pound sterling. 2 Short-term rates decrease and long-term rates increase. 3 Short-term rates increase and long-term rates decrease. 4 Short-term rates increase more than long-term rates. 5 Short-term rates decrease more than long-term rates.

Other market risk exposures

Own credit

We are exposed to changes in UBS's own credit that are reflected in the valuation of financial liabilities designated at fair value when UBS's own credit risk would be considered by market participants. We also estimate debit valuation adjustments (DVA) to incorporate own credit in the valuation of derivatives.

→ **Refer to "Note 24 Fair value measurement" in the "Consolidated financial statements" section of this report for more information about own credit**

Structural foreign exchange risk

Upon consolidation, assets and liabilities held in foreign operations are translated into US dollars at the closing foreign exchange rate on the balance sheet date. Value changes (in US dollars) of non-US dollar assets or liabilities due to foreign exchange movements are recognized in OCI and therefore affect shareholders' equity and CET1 capital.

Group Treasury employs strategies to manage this foreign currency exposure, including matched funding of assets and liabilities and net investment hedging.

→ **Refer to the "Treasury management" section of this report for more information about our exposure to and management of structural foreign exchange risk**

→ **Refer to "Note 11 Derivative instruments" in the "Consolidated financial statements" section of this report for more information about our hedges of net investments in foreign operations**

Equity investments

Audited | Under International Financial Reporting Standards (IFRS) effective on 31 December 2019, equity investments not in the trading book may be classified as *Financial assets at fair value not held for trading* or *Investments in associates*.

We make direct investments in a variety of entities and buy equity holdings in both listed and unlisted companies for a variety of purposes. This includes investments such as exchange and clearing house memberships held to support our business activities. We may also make investments in funds that we manage in order to fund or seed them at inception or to demonstrate that our interests align with those of investors. We also buy, and are sometimes required by agreement to buy, securities and units from funds that we have sold to clients.

The fair value of equity investments tends to be influenced by factors specific to the individual investments. Equity investments are generally intended to be held for the medium or long term and may be subject to lock-up agreements. For these reasons, we generally do not control these exposures by using the market risk measures applied to trading activities. However, such equity investments are subject to a different range of controls, including preapproval of new investments by business management and Risk Control, portfolio and concentration limits, and regular monitoring and reporting to senior management. They are also included in our Group-wide statistical and stress testing metrics, which flow into our risk appetite framework.

As of 31 December 2019, we held equity investments totaling USD 2.4 billion, of which USD 1.3 billion was classified as *Financial assets at fair value not held for trading* and USD 1.1 billion as *Investments in associates*. This was broadly unchanged from the prior year. ▲

→ **Refer to "Note 24 Fair value measurement" and "Note 31 Interests in subsidiaries and other entities" in the "Consolidated financial statements" section of this report for more information**

→ **Refer to "Note 1 Summary of significant accounting policies" in the "Consolidated financial statements" section of this report for more information about the classification of financial instruments**

Debt investments

Audited | Debt investments classified as *Financial assets measured at fair value through OCI* as of 31 December 2019 were measured at fair value with changes in fair value recorded through *Equity*, and can broadly be categorized as money market instruments and debt securities primarily held for statutory, regulatory or liquidity reasons.

The risk control framework applied to debt instruments classified as *Financial assets measured at fair value through OCI* depends on the nature of the instruments and the purpose for which we hold them. Our exposures may be included in market risk limits or be subject to specific monitoring and interest rate sensitivity analysis. They are also included in our Group-wide statistical and stress testing metrics, which flow into our risk appetite framework.

Debt instruments classified as *Financial assets measured at fair value through OCI* had a fair value of USD 6.3 billion as of 31 December 2019 compared with USD 6.7 billion as of 31 December 2018. ▲

→ **Refer to "Note 24 Fair value measurement" in the "Consolidated financial statements" section of this report for more information**

→ **Refer to "Economic value sensitivity" in this section for more information**

→ **Refer to "Note 1 Summary of significant accounting policies" in the "Consolidated financial statements" section of this report for more information about the classification of financial instruments**

Pension risk

We provide a number of pension plans for past and current employees, some of which are classified as defined benefit pension plans under IFRS. These defined benefit plans can have a material effect on our IFRS equity and CET1 capital.

In order to meet the expected future benefit payments, the plans invest employee and employer contributions in various asset classes. The funded status of the plan is the difference between the fair value of these assets and the present value of the expected future benefit payments to plan members, i.e., the defined benefit obligation.

Pension risk is the risk that the funded status of defined benefit plans might decrease, negatively affecting our IFRS equity and/or our CET1 capital. This can arise from a fall in the value of a plan's assets or in the investment returns, an increase in defined benefit obligations, or a combination of the above.

Important risk factors affecting the fair value of the plan assets are, among other things, equity market returns, interest rates, bond yields and real estate prices. Important risk factors affecting the present value of the expected future benefit payments include high-grade bond yields, interest rates, inflation rates and life expectancy.

Pension risk is included in our Group-wide statistical and stress testing metrics, which flow into our risk appetite framework. The potential effects are thus captured in the calculation of our post-stress CET1 capital ratio.

→ **Refer to "Note 1 Summary of significant accounting policies" and "Note 29 Pension and other post-employment benefit plans" in the "Consolidated financial statements" section of this report for more information about defined benefit plans**

UBS own share exposure

Group Treasury holds UBS Group AG shares to hedge future share delivery obligations related to employee share-based compensation and participation plans. In addition, the Investment Bank holds a limited number of UBS Group AG shares, primarily in its capacity as a market-maker with regard to UBS Group AG shares and related derivatives and to hedge certain issued structured debt instruments.

We began a share repurchase program in March 2018. We may repurchase up to an aggregate of CHF 2 billion of UBS Group AG shares until March 2021 under the repurchase program in accordance with Swiss regulations. During 2019, we have acquired shares for an aggregate consideration of CHF 800 million (USD 806 million). The total consideration for shares repurchased in 2018 and 2019 amounted to CHF 1,550 million (USD 1,567 million). Consistent with our capital returns policy, we intend to establish an additional share repurchase program when we have completed the current program. Shares acquired through the share repurchase program are purchased for the purpose of capital reduction. Until the shareholders of UBS Group AG approve cancelation of such shares, shares acquired in the repurchase program will be held in Group Treasury.

→ **Refer to "UBS shares" in the "Capital management" section of this report for more information**

Country risk

Country risk framework

Country risk includes all country-specific events that occur within a sovereign jurisdiction and may lead to an impairment of UBS's exposures. Country risk may take the form of: sovereign risk, which refers to the ability and willingness of a government to honor its financial commitments; transfer risk, which would arise if an issuer or counterparty could not acquire foreign currencies following a moratorium of a central bank on foreign exchange transfers; or "other" country risk. "Other" country risk may manifest itself through increased and multiple counterparty and issuer default risk (systemic risk), on the one hand, and, on the other hand, through events that may affect the standing of a country, such as adverse shocks affecting political stability or the institutional and legal framework. We maintain a well-established risk control framework, through which we assess the risk profile of all countries where we have exposure.

We attribute a sovereign rating to each foreign country, which expresses the probability of the sovereign defaulting on its own financial obligations in foreign currency. Our ratings are expressed by statistically derived default probabilities as described under "Probability of default" in this section. Based on this internal analysis, we also define the probability of a transfer event occurring, and we establish rules as to how the aspects of "other" country risk should be incorporated into the analysis of the counterparty rating of entities that are domiciled in the respective country.

Our risk exposure to foreign countries considers the credit ratings assigned to those countries. A country risk ceiling (i.e., maximum aggregate exposure) applies to our exposures to counterparties or issuers of securities and financial investments in the respective foreign country. We may limit the extension of credit, transactions in traded products or positions in securities based on a country risk ceiling, even if our exposure to a counterparty is otherwise acceptable.

For internal measurement and control of country risk, we also consider the financial effect of market disruptions arising prior to, during and after a country crisis. These may take the form of a severe deterioration in a country's debt, equity or other asset markets, or a sharp depreciation of the currency. We use stress testing to assess the potential financial effect of a severe country or sovereign crisis. This involves the developing of plausible stress scenarios for combined stress testing and the identification of countries that may potentially be subject to a crisis event, determining potential losses and making assumptions about recovery rates depending on the types of credit transactions involved and their economic importance to the affected countries.

Our exposures to market risks are also subject to regular stress tests that cover major global scenarios, which are also used for combined stress testing, whereby we apply market shock factors to equity indices, interest rates and currency rates in all relevant countries and consider the potential liquidity of the instruments.

Country risk exposure

Country risk exposure measure

The presentation of country risk follows our internal risk view, whereby the basis for measurement of exposures depends on the product category into which we have classified our exposures. In addition to the classification of exposures into banking products and traded products, as defined in "Credit risk profile of the Group" in this section, within trading inventory we classify issuer risk on securities such as bonds and equities, as well as the risk relating to the underlying reference assets for derivative positions. This includes those linked to credit protection that we buy or sell, loan or security underwriting commitments pending distribution and single-stock margin loans for syndication.

As we manage the trading inventory on a net basis, we net the value of long positions against short positions with the same underlying issuer. Net exposures are, however, floored at zero per issuer in the figures presented in the following tables. As a result, we do not recognize the potentially offsetting benefit of certain hedges and short positions across issuers.

We do not recognize any expected recovery values when reporting country exposures as exposure before hedges, except for the risk-reducing effects of master netting agreements and collateral held in the form of either cash or portfolios of diversified marketable securities, which we deduct from the basic positive exposure values. Within banking products and traded products, the risk-reducing effect of any credit protection is taken into account on a notional basis when determining the net of hedge exposures.

Country risk exposure allocation

In general, exposures are shown against the country of domicile of the contractual counterparty or the issuer of the security. For some counterparties whose economic substance in terms of assets or source of revenues is primarily located in a different country, the exposure is allocated to the risk domicile of that issuer.

This is the case with, for example, legal entities incorporated in financial offshore centers, which have their main assets and revenue streams outside the country of domicile. The same principle applies to exposures for which we hold third-party guarantees or collateral, where we report the exposure against the country of domicile of either the guarantor or the issuer of the underlying security, or against the country where pledged physical assets are located.

We apply a specific approach for banking products exposures to branches of banks that are located in a country other than the legal entity's domicile. In such cases, exposures are recorded in full against the country of domicile of the counterparty and additionally in full against the country in which the branch is located.

In the case of derivatives, we show the counterparty risk associated with the positive replacement value (PRV) against the country of domicile of the counterparty (presented within traded products). In addition, the risk associated with the instantaneous fall in value of the underlying reference asset to zero (assuming no recovery) is shown against the country of domicile of the issuer of the reference asset (presented within trading inventory). This approach allows us to capture both the counterparty and, where applicable, issuer elements of risk arising from derivatives and applies comprehensively for all derivatives, including single-name credit default swaps (CDSs) and other credit derivatives.

As a basic example: if CDS protection for a notional value of 100 bought from a counterparty domiciled in country X referencing debt of an issuer domiciled in country Y has a PRV of 20, we record (i) the fair value of the CDS (20) against country X (within traded products) and (ii) the hedge benefit (notional minus fair value) of the CDS (100 – 20 = 80) against country Y (within trading inventory). In the example of protection bought, the 80 hedge benefit would offset any exposure arising from securities held and issued by the same entity as the reference asset, floored at zero per issuer. In the case of protection sold, this would be reflected as a risk exposure of 80 in addition to any exposure arising from securities held and issued by the same entity as the reference asset. In the case of derivatives referencing a basket of assets, the issuer risk against each reference entity is calculated as the expected change in fair value of the derivative given an instantaneous fall in value to zero of the corresponding reference asset (or assets) issued by that entity. Exposures are then aggregated by country across issuers, although floored at zero per issuer.

Exposures to selected eurozone countries

Our exposure to peripheral European countries remains limited, but we nevertheless remain watchful regarding the potential broader implications of adverse developments in the eurozone. As noted under "Stress testing" in this section, a eurozone crisis remains a core part of the new binding *Global Crisis scenario* for combined stress test purposes, making it central to the regular monitoring of risk exposure against the minimum capital, earnings and leverage ratio objectives in our risk appetite framework.

The "Exposures to eurozone countries rated lower than AAA / Aaa by at least one major rating agency" table on the next page provides an overview of our exposures to such rated countries as of 31 December 2019.

CDSs are primarily bought and sold in relation to our trading businesses, but are also used to hedge parts of our risk exposure, including that related to certain eurozone countries. As of 31 December 2019, and not taking into account the risk-reducing effect of master netting agreements, we had purchased USD 6 billion gross notional of single-name CDS protection on issuers domiciled in Greece, Italy, Ireland, Portugal and Spain (GIIPS) and had sold USD 7 billion gross notional of single-name CDS protection for these same countries. On a net basis, taking into account the risk-reducing effect of master netting agreements, this equates to USD 1 billion notional purchased and USD 2 billion notional sold. All gross protection purchased was from investment grade counterparties (based on our internal ratings) and on a collateralized basis. The vast majority of this was from financial institutions domiciled outside the eurozone. The gross protection purchased from counterparties domiciled in a GIIPS country was USD 50 million, with no protection purchased from counterparties domiciled in the same country as the reference entity.

Exposures to eurozone countries rated lower than AAA / Aaa by at least one major rating agency

USD million	Total		Banking products (loans, guarantees, loan commitments)			Traded products (counterparty risk from derivatives and securities financing) after master netting agreements and net of collateral		Trading inventory (securities and potential benefits / remaining exposure from derivatives)
31.12.19		Net of hedges[1]	Exposure before hedges	Net of hedges[1]	*of which: unfunded*	Exposure before hedges	Net of hedges	Net long per issuer
Austria	3,183	3,148	125	124	*84*	446	412	2,612
Sovereign, agencies and central bank	216	183	0	0		216	183	
Local governments	0	0						0
Banks	438	438	64	64		28	28	346
Other[2]	2,529	2,527	61	60		201	201	2,266
Belgium	609	609	382	382	*88*	182	182	46
Sovereign, agencies and central bank								
Local governments								
Banks	414	414	342	342		69	69	3
Other[2]	195	195	39	39		112	112	43
Finland	965	965	7	7	*3*	614	614	344
Sovereign, agencies and central bank	112	112						112
Local governments								
Banks	39	39	7	7		16	16	17
Other[2]	814	814	0	0		599	599	215
France	3,473	3,353	494	490	*405*	951	834	2,029
Sovereign, agencies and central bank	1,472	1,355				402	285	1,070
Local governments	0	0						0
Banks	847	845	188	186		100	100	560
Other[2]	1,154	1,152	306	305		449	449	399
Greece	16	8	12	4	*4*			4
Sovereign, agencies and central bank	0	0						0
Local governments								
Banks	13	5	12	4				1
Other[2]	3	3	0	0				3
Ireland[3]	884	884	338	338	*51*	58	58	488
Sovereign, agencies and central bank								
Local governments								
Banks	58	58	43	43		9	9	6
Other[2]	826	826	205	295		49	49	482
Italy	1,240	1,139	765	680	*625*	150	135	324
Sovereign, agencies and central bank	25	11				18	4	7
Local governments	53	52				53	52	
Banks	422	422	394	394		20	20	8
Other[2]	739	654	371	286		59	59	309
Portugal	94	94	26	26	*26*	59	59	9
Sovereign, agencies and central bank	47	47				47	47	
Local governments								
Banks	18	18	9	9		3	3	6
Other[2]	29	29	17	17		9	9	3
Spain	774	745	420	391	*360*	17	17	337
Sovereign, agencies and central bank	24	24						24
Local governments								
Banks	50	50	33	33		4	4	14
Other[2]	700	671	387	358	*3*	14	14	299
Other[4]	72	56	26	9		18	18	28
Total	11,310	11,001	2,594	2,451	*1,649*	2,495	2,328	6,221

1 Before deduction of IFRS 9 ECL allowances and provisions. 2 Includes corporates, insurance companies and funds. 3 The majority of the Ireland exposure relates to funds and foreign bank subsidiaries. 4 Represents aggregate exposures to Andorra, Cyprus, Estonia, Latvia, Lithuania, Malta, Monaco, Montenegro, San Marino, Slovakia and Slovenia.

Exposure from single-name credit default swaps referencing Greece, Italy, Ireland, Portugal or Spain (GIIPS)

USD million	Protection bought						Protection sold		Net position (after application of counterparty master netting agreements)			
			of which: counterparty domiciled in GIIPS country		*of which: counterparty domicile is the same as the reference entity domicile*							
31.12.19	Notional	RV	Notional	RV	Notional	RV	Notional	RV	Buy notional	Sell notional	PRV	NRV
Greece	3	0	0	0	0	0	(8)	1	0	(5)	1	0
Italy	5,585	(27)	0	0	0	0	(6,094)	(22)	791	(1,300)	23	(72)
Ireland	142	(7)	0	0	0	0	(27)	3	121	(6)	0	(5)
Portugal	116	(2)	0	0	0	0	(146)	2	62	(91)	1	(1)
Spain	462	(11)	50	0	0	0	(586)	17	173	(297)	10	(4)
Total	6,310	(48)	50	0	0	0	(6,862)	1	1,147	(1,699)	35	(82)

Holding CDSs for credit default protection does not necessarily protect the buyer of protection against losses, as the contracts will only pay out under certain scenarios. The effectiveness of our CDS protection as a hedge of default risk is influenced by a number of factors, including the contractual terms under which the CDS was written. Generally, only the occurrence of a credit event as defined by the CDS terms (which may include, among other events, failure to pay, restructuring or bankruptcy) results in a payment under the purchased credit protection contracts. For CDS contracts on sovereign obligations, repudiation can also be deemed as a default event. The determination as to whether a credit event has occurred is made by the relevant International Swaps and Derivatives Association (ISDA) determination committees (comprised of various ISDA member firms) based on the terms of the CDS and the facts and circumstances surrounding the event.

Exposure to emerging market countries

The "Emerging market net exposure by major geographical region and product type" table on the following page shows the five largest emerging market country exposures in each major geographical area by product type as of 31 December 2019 compared with 31 December 2018. Based on the sovereign rating categories, as of 31 December 2019, 79% of our emerging market country exposure was rated investment grade, compared with 84% as of 31 December 2018.

Our direct net exposure to China was USD 4.7 billion, a decrease of USD 1.6 billion compared with the prior year, mainly in the trading book. Trading inventory, which is measured at fair value, continues to account for the majority of our exposure to China.

Emerging markets net exposure[1] by internal UBS country rating category

USD million	31.12.19	31.12.18
Investment grade	13,693	15,763
Sub-investment grade	3,721	3,039
Total	17,414	18,803

1 Net of credit hedges (for banking products and for traded products); net long per issuer (for trading inventory). Before deduction of IFRS 9 ECL allowances and provisions.

Emerging market net exposures by major geographical region and product type

USD million	Total		Banking products (loans, guarantees, loan commitments)		Traded products (counterparty risk from derivatives and securities financing) after master netting agreements and net of collateral		Trading inventory (securities and potential benefits / remaining exposure from derivatives)	
	Net of hedges[1]		Net of hedges[1]		Net of hedges		Net long per issuer	
	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18
Emerging America	1,512	1,505	613	820	368	262	531	422
Brazil	1,262	1,137	498	573	288	183	476	381
Mexico	121	174	22	102	56	56	43	16
Colombia	45	30	28	22	14	7	3	1
Argentina	22	27	17	10	0	0	5	17
Chile	20	28	9	13	8	11	2	4
Other	42	108	39	101	1	5	2	3
Emerging Asia	11,627	13,890	3,306	4,307	2,235	1,693	6,086	7,890
China	4,717	6,302	1,140	1,060	456	473	3,121	4,769
Hong Kong	2,850	2,920	1,000	1,377	823	442	1,027	1,101
South Korea	1,118	1,282	60	523	403	391	655	368
India	895	909	492	553	125	144	277	212
Thailand	616	1,176	62	147	26	25	528	1,005
Other	1,431	1,301	552	647	402	218	478	435
Emerging Europe	1,382	1,189	1,076	1,015	138	125	169	49
Russia	547	400	380	270	93	111	74	19
Turkey	398	434	359	413	4	4	34	16
Azerbaijan	186	145	184	139	0	1	2	5
Ukraine	76	53	66	50	0	0	10	3
Bulgaria	47	76	44	76	0	0	4	0
Other	128	82	42	67	40	10	46	6
Middle East and Africa	2,893	2,219	1,316	1,245	1,027	659	550	315
South Africa	668	362	176	73	129	60	363	229
United Arab Emirates	624	572	404	418	215	142	5	11
Saudi Arabia	556	275	147	166	401	108	7	0
Kuwait	277	379	56	71	222	308	0	0
Israel	190	113	37	42	51	5	102	66
Other	578	519	497	476	9	34	72	9
Total	17,414	18,803	6,311	7,387	3,767	2,739	7,335	8,676

1 Before deduction of IFRS 9 ECL allowances and provisions.

Operational risk

Key developments

The key risk themes for UBS and the financial industry overall continue to be operational resilience, conduct and financial crime.

Operational resilience remains a key focus for the firm. Our regulators have recently released consultation papers and set up working groups focused on the topic and the industry is preparing for new regulations over the coming years. We continually enhance our ability to maintain effective day-to-day business activities through the anticipation of, preparation for and response to changes in business conditions, disruption and stress scenarios. Cybersecurity, technology, data protection, third-party risk management and business continuity management are critical elements of operational resilience. Our cybersecurity objectives are set in line with international standards and our data protection and privacy standards are designed to align with applicable regulations and standards. We continue to invest in preemptive and detective measures to defend UBS against evolving and highly sophisticated cyberattacks. We focus on: (i) increasing readiness to identify and respond to cyber threats and data loss; (ii) employee training and behaviors; and (iii) application and infrastructure security (including vulnerability management).

Global policies and improved risk-based frameworks for third-party risk management have been developed and are being rolled out to all regions and business divisions. UBS has not been affected by any significant business continuity or operational resilience event in 2019. Where local events have occurred, our business continuity procedures have allowed us to ensure the safety of staff and to continue our operations with minimal disruption.

Achieving fair outcomes for our clients, upholding market integrity and cultivating the highest standards of employee conduct are of critical importance to the firm. Management of conduct risks is an integral part of our operational risk framework. We continue to focus on effectively embedding the conduct risk framework across our activities, enhancing management information and maintaining momentum on fostering a strong culture. Conduct-related management information is reviewed at the business and regional governance level, providing metrics on employee conduct, clients and markets. Employee conduct is a central consideration in the annual compensation process. Our incentive schemes distinguish clearly between quantitative performance and conduct-related behaviors, so that achievement against financial targets is not the only determinant of our employees' performance assessment. Furthermore, we continue to pursue behavioral initiatives, such as the "Principles of Good Supervision," and provide mandatory compliance and risk training.

Suitability risk, product selection, cross-divisional service offerings, quality of advice and price transparency also remain areas of heightened focus for UBS and for the industry as a whole, as low interest rates and major legislative change programs, such as Fidleg in Switzerland, Regulation Best Interest in the US, and the Markets in Financial Instruments Directive II (MiFID II) in the EU, continue to significantly impact the industry and require adjustments to control processes on a geographically aligned basis. We regularly monitor our suitability, product and conflicts of interest control frameworks to assess whether they are reasonably designed to facilitate our adherence to applicable laws and regulatory expectations.

Financial crime (including money laundering, terrorist financing, sanctions violations, fraud, bribery and corruption) continues to present a major risk, as technological innovation and geopolitical developments increase the complexity of doing business and heightened regulatory attention persists. An effective financial crime prevention program remains essential for the firm. Money laundering and financial fraud techniques are becoming increasingly sophisticated, while geopolitical volatility makes the sanctions landscape more complex. New risks are emerging, such as virtual currencies and related activities or investments.

The Office of the Comptroller of the Currency issued a Cease and Desist Order against the firm in May 2018 relating to this risk category. As a response, the firm initiated a comprehensive program for the purpose of ensuring sustainable remediation of US-relevant Bank Secrecy Act / anti-money laundering (AML) issues across all US legal entities. UBS has implemented significant improvement measures in 2019 and expects to continue implementing these measures in 2020.

We have also been focusing on strategic enhancements in the areas of AML, know your client (KYC) and sanctions on a global scale to cope with the evolving risk profile and regulatory expectations. This includes our significant investments in our detection capabilities and core systems as part of our financial crime prevention program. We are exploring new technologies to combat financial crime, and implementing more sophisticated rule-based monitoring by applying self-learning systems to identify potentially suspicious transactions. Furthermore, we continue to actively participate in AML public–private partnerships with public-sector stakeholders, including law enforcement, to improve information sharing and better detect financial crimes.

Cross-border risk remains an area of regulatory attention for global financial institutions, with a strong focus on fiscal transparency. There is evolving risk related to permanent establishment (PE) as a result of changes to the global economy and political pressure under which tax authorities are becoming increasingly demanding in asserting PEs, including retrospective application of current and future potential law concepts. The firm is actively assessing if and what further measures are required to respond to this recent focus area for authorities.

During 2018 and 2019, the firm performed a systematic review of risk themes and initiated programs to drive sustainable remediation, which have contributed to a reduction in the overall portfolio of operational risk issues and the number of new deficiencies being discovered. This trend indicates a more holistic approach to identification of operational risk issues, accountability for ownership, and focus on resolution of the underlying root causes.

Operational risk framework

Operational risk is an inherent part of the firm's business. Losses can result from inadequate or failed internal processes, people and systems, or from external causes. The operational risk definition incorporates both conduct and compliance risks. UBS defines a Group-wide framework that supports identifying, managing, assessing and mitigating operational risks to achieve an agreed balance between risk and return.

The operational risk framework establishes requirements for managing and controlling operational risks at UBS. It is built on the following pillars:

- classifying inherent risks through the operational risk taxonomy, which defines the universe of material operational risks that can arise as a consequence of the firm's business activities and external factors;
- assessing the design and operating effectiveness of controls through the control assessment process;
- proactively and sustainably remediating identified control deficiencies;
- defining operational risk appetite (including a financial operational risk appetite statement at Group and business division level for operational risk events) through quantitative metrics and thresholds and qualitative measures, and assessing risk exposure against appetite; and
- assessing inherent and residual risk through risk assessment processes, and assessing whether additional remediation plans are required to address identified deficiencies.

Divisional Presidents and accountable legal entity executives are responsible for the effectiveness of operational risk management and for the robustness of the front-to-back control environment within their respective areas. Group function heads are accountable for supporting the divisional Presidents and accountable legal entity executives of our legal entities in the discharge of this responsibility by confirming the end-to-end completeness and effectiveness of the control environment and the operational risk management within their Group function. Collectively, divisional Presidents, Group function heads and accountable legal entity executives are in charge of implementing the operational risk framework.

Compliance & Operational Risk Control (C&ORC) is responsible for providing an independent and objective view of the adequacy of operational risk management across the Group, and for ensuring that operational risks are understood, owned and managed in accordance with the firm's risk appetite. C&ORC sits within the Group Compliance, Regulatory & Governance (GCRG) function, reporting to the Group Chief Compliance and Governance Officer, who is a member of the Group Executive Board. C&ORC is an integrated function covering both operational risk as well as compliance and conduct topics. The operational risk framework forms the common basis for managing and assessing operational risk; however, there are additional C&ORC activities that are intended to ensure the firm is able to demonstrate compliance with applicable laws, rules and regulations.

In 2019, we further improved our operational risk framework, enhancing processes for sustainably remediating control deficiencies, risk management processes for UBS entities, and senior management reporting tools to better embed the framework as a key tool used by the businesses to manage their risks day to day.

All functions within the firm are required to assess the design and operating effectiveness of their internal controls periodically. The output of these assessments forms the basis for the assessment and testing of internal controls over financial reporting as required by the Sarbanes-Oxley Act, Section 404 (SOX 404).

Key control deficiencies identified during the internal control and risk assessment processes must be reported in the operational risk inventory, and sustainable remediation must be defined and executed. These control deficiencies are assigned to owners at senior management level and the remediation progress is reflected in the respective manager's annual performance measurement and management objectives. To assist with prioritizing the most material control deficiencies and measuring aggregated risk exposure, irrespective of origin, a common rating methodology is applied across all three lines of defense, as well as by external audit.

Advanced measurement approach model

The operational risk framework detailed above underpins the calculation of regulatory capital for operational risk, which enables us to quantify operational risk and to define effective risk mitigating management incentives as part of the related operational risk capital allocation approach to the business divisions.

We measure Group operational risk exposure and calculate operational risk regulatory capital by using the advanced measurement approach (AMA) in accordance with FINMA requirements.

An entity-specific AMA model has been applied for UBS Switzerland AG, while for other regulated entities the basic indicators or standardized approaches are adopted for regulatory capital in agreement with local regulators. In addition, the methodology of the Group AMA is leveraged for entity-specific Internal Capital Adequacy Assessment Processes.

Currently, the model includes 15 AMA units of measure (UoM), which are aligned with our operational risk taxonomy as closely as possible. For each of the model's UoM, frequency and severity distributions are calibrated. The modeled distribution functions for both frequency and severity are then used to generate the annual loss distribution. The resulting 99.9% quantile of the overall annual operational risk loss distribution across all UoM determines the required regulatory capital. Currently, we do not reflect mitigation through insurance or any other risk transfer mechanism in our AMA model.

AMA model calibration and review

A key assumption when calibrating the data-driven frequency and severity distributions is that historical losses form a reasonable proxy for future events. In line with regulatory expectations, the AMA methodology utilizes both historical internal losses and external losses suffered by the broader industry for the model calibration.

Initial model outputs driven by loss history are reviewed and adjusted to reflect fast-changing external developments such as new regulations, geopolitical change, volatile market and economic conditions, as well as internal factors including changes in business strategy and control framework enhancements. The resulting baseline data-driven frequency and severity distributions are reviewed by subject matter experts and where necessary adjusted based on a review of qualitative information about the business environment and internal control factors as well as expert judgment with the aim of forecasting losses.

To maintain risk sensitivity, our model is reviewed regularly and is recalibrated at least annually. Any changes to regulatory capital as a result of a recalibration or methodology changes are presented to FINMA for approval prior to their utilization for disclosure purposes.

AMA model governance

The Group and entity-specific AMA models are subject to an independent validation performed by Model Risk Management & Control (MRMC) in line with the Group's model risk management framework.

→ **Refer to "Capital management objectives, planning and activities" in the "Capital management" section of this report for more information about the development of risk-weighted assets**

→ **Refer to "Risk measurement" in this section for more information about our approach to model confirmation procedures**

→ **Refer to the "Regulatory and legal developments" and "Risk factors" sections of this report for more information**

Treasury management

Balance sheet, liquidity and funding management

Strategy, objectives and governance

We manage the structural risk of our balance sheet, including interest rate risk (e.g., investment of equity, banking book exposures from Global Wealth Management and Personal & Corporate Banking), structural foreign exchange risk and collateral risk, as well as the risks associated with our liquidity and funding portfolios.

Audited | Our management of the balance sheet, liquidity and funding positions serves the overall objective of optimizing the value of our franchise across a broad range of market conditions while considering current and future regulatory constraints. We employ a number of measures to monitor these positions under normal and stressed conditions. In particular, we use stress scenarios to apply behavioral adjustments to our balance sheet and calibrate the results from these internal stress models with external measures, primarily the liquidity coverage ratio and the net stable funding ratio. Our liquidity and funding strategy is proposed by Group Treasury, approved by the Group Asset and Liability Committee (the Group ALCO), which is a committee of the Group Executive Board, and is overseen by the Risk Committee of the Board of Directors (the BoD). ▲

This section provides more detailed information about regulatory requirements, our governance structure, our balance sheet, liquidity and funding management (including our sources of liquidity and funding), and our contingency planning and stress testing. The balances disclosed in this section represent year-end positions, unless indicated otherwise. Intra-period balances fluctuate in the ordinary course of business and may differ from year-end positions.

Group Treasury monitors and oversees the implementation and execution of our liquidity and funding strategy and is responsible for adherence to policies, limits, triggers and targets. This enables close control of both our cash and collateral, including our high-quality liquid assets, and centralizes the Group's general access to wholesale cash markets in Group Treasury. In addition, should a crisis require contingency funding measures to be invoked, Group Treasury is responsible for coordinating liquidity generation with representatives of the relevant business areas. Group Treasury reports on the Group's overall liquidity and funding position, including funding status and concentration risks, at least monthly, to the Group ALCO and the Risk Committee of the BoD.

Audited | Liquidity and funding limits, triggers and targets are set at Group and, where appropriate, at legal entity and business division levels, and are reviewed and reconfirmed at least once a year by the BoD, the Group ALCO, the Group Chief Financial Officer, the Group Treasurer and the business divisions, taking into consideration current and projected business strategy and risk tolerance. The principles underlying our limit and target framework are designed to maximize and sustain the value of our business franchise and maintain an appropriate balance in the asset and liability structure. Structural limits, triggers and targets focus on the structure and composition of the balance sheet, while supplementary limits, triggers and targets are designed to drive the utilization, diversification and allocation of funding resources. To complement and support this framework, Group Treasury monitors the markets for early warning indicators reflecting the current liquidity situation. These liquidity status indicators are used at Group level to assess both the overall global and regional situations for potential threats. Market & Treasury Risk Control provides independent oversight over liquidity and funding risks. ▲

→ **Refer to the "Corporate governance" section of this report for more information**

→ **Refer to the "Risk management and control" section of this report for more information**

Assets and liquidity management

Audited | Our liquidity risk management aims to maintain a sound liquidity position to meet all our liabilities when due and to provide adequate time and financial flexibility to respond to a firm-specific liquidity crisis in a generally stressed market environment, without incurring unacceptable losses or risking sustained damage to our businesses.

Our liquid assets are managed using limits, triggers and targets to maintain an appropriate level of diversification (issuer, tenor and other risk characteristics) in response to any anticipated or unanticipated volatility in funding availability or requirements caused by adverse market, operational or other firm-specific events. The liquid asset portfolio size is managed to operate within the risk appetite of the Board of Directors and relevant Group and subsidiary liquidity requirements. ▲

Assets

	As of		% change from
USD billion	31.12.19	31.12.18	31.12.18
Cash and balances at central banks	107.1	108.4	(1)
Lending[1]	339.2	337.2	1
Securities financing transactions at amortized cost	84.2	95.3	(12)
Trading portfolio[2]	127.5	104.4	22
Derivatives and cash collateral receivables on derivative instruments	145.1	149.8	(3)
Brokerage receivables	18.0	16.8	7
Other financial assets measured at amortized cost and fair value[3]	85.6	90.5	(5)
Non-financial assets and financial assets for unit-linked investment contracts	65.4	56.1	17
Total assets	972.2	958.5	1

1 Consists of loans and advances to banks and customers. 2 Consists of financial assets at fair value held for trading. 3 Consists of financial assets at fair value not held for trading, financial assets measured at fair value through other comprehensive income and other financial assets measured at amortized cost, but excludes financial assets for unit-linked investment contracts.

Balance sheet assets

Group

As of 31 December 2019, balance sheet assets totaled USD 972 billion, an increase of USD 14 billion from 31 December 2018, driven mainly by increases in trading portfolio assets as well as in non-financial assets and financial assets for unit-linked investment contracts. These effects were partly offset by decreases in securities financing transactions at amortized cost, in other financial assets measured at amortized cost and fair value, as well as in derivatives and cash collateral receivables on derivative instruments.

Total assets excluding derivatives and cash collateral receivables on derivative instruments increased by USD 18 billion to USD 827 billion as of 31 December 2019. Excluding currency effects, total assets excluding derivatives and cash collateral receivables on derivative instruments increased by USD 13 billion.

Trading portfolio assets increased by USD 23 billion, mainly in our Equities business in the Investment Bank, largely reflecting market-driven movements and increased hedging requirements resulting from client activity.

Non-financial assets and financial assets for unit-linked investment contracts increased by USD 9 billion, mainly driven by an increase of USD 6 billion in assets held to hedge unit-linked investment contracts in Asset Management, with a related increase in the associated liabilities, reflecting mainly market-driven movements and net new money inflows. In addition, the adoption of IFRS 16 resulted in a USD 3 billion increase following the recognition of right-of-use assets as of 1 January 2019.

Receivables from securities financing transactions at amortized cost decreased by USD 11 billion, driven by increased funding consumption by the business divisions and lower collateral sourcing requirements.

Other financial assets at amortized cost and fair value decreased by USD 5 billion, mainly as a result of movements within our high-quality liquid assets (HQLA) portfolio from debt securities to cash and balances at central banks.

Derivatives and cash collateral receivables on derivative instruments decreased by USD 5 billion, mainly driven by lower client activity levels in Global Wealth Management and in our Equities business in the Investment Bank. This was partly offset by an increase in our Foreign Exchange, Rates and Credit business in the Investment Bank, mainly reflecting market-driven movements.

→ **Refer to the "Consolidated financial statements" section of this report for more information**

Changes in Corporate Center cost and resource allocation to business divisions

Effective 1 January 2019, UBS has increased the allocation of balance sheet resources from Corporate Center to the business divisions. Prior-period information has been restated. As of 31 December 2018, the restatement resulted in an increase of total assets in Global Wealth Management of USD 114 billion, in Personal & Corporate Banking of USD 62 billion, in Asset Management of USD 4 billion and in the Investment Bank of USD 44 billion, with a corresponding decrease of assets in Corporate Center of USD 223 billion.

These changes had no effect on the reported results or financial position of the Group.

→ **Refer to "Note 2 Segment reporting" in the "Consolidated financial statements" section of this report for more information**

Investment Bank

Investment Bank total assets increased by USD 14 billion to USD 316 billion, driven by a USD 23 billion increase in trading portfolio assets, largely reflecting market-driven movements and increased hedging requirements resulting from client activity. This increase was partly offset by an USD 8 billion decrease in HQLA requirements.

Global Wealth Management

Global Wealth Management total assets decreased by USD 4 billion to USD 310 billion, mainly reflecting a USD 7 billion decrease in HQLA requirements. This was partly offset by an increase of USD 3 billion in lending assets, as a result of higher mortgage and Lombard loans.

Personal & Corporate Banking

Personal & Corporate Banking total assets increased by USD 9 billion to USD 209 billion, mainly driven by a USD 5 billion increase in HQLA requirements, as well as an increase of USD 3 billion in lending assets, reflecting currency effects and increases in mortgage loans.

Asset Management

Asset Management total assets increased by USD 6 billion to USD 35 billion, reflecting an increase in financial assets for unit-linked investment contracts mainly due to market-driven movements and net new money inflows, with an increase in the corresponding liabilities.

Corporate Center

Corporate Center total assets decreased by USD 11 billion to USD 103 billion, primarily reflecting a reduction in Group Treasury to fund the redemption of short-term borrowings.

High-quality liquid assets

High-quality liquid assets (HQLA) are low-risk unencumbered assets under the control of Group Treasury that are easily and immediately convertible into cash at little or no loss of value, in order to meet liquidity needs. Our HQLA predominantly consist of assets that qualify as Level 1 in the liquidity coverage ratio (LCR) framework, including cash, central bank reserves and government bonds. Group HQLA are held by UBS AG and its subsidiaries, and may include amounts that are available to meet funding and collateral needs in certain jurisdictions, but are not readily available for use by the Group as a whole. These limitations are typically the result of local regulatory requirements, including local LCR and large exposure requirements. Funds that are effectively restricted are excluded from the calculation of Group HQLA to the extent they exceed the outflow assumptions for the subsidiary that holds the relevant HQLA. On this basis, USD 28 billion of assets were excluded from our daily average Group HQLA for the fourth quarter of 2019. Amounts held in excess of local liquidity requirements that are not subject to other restrictions are generally available for transfer within the Group.

The total weighted liquidity value of HQLA decreased by USD 7 billion to USD 166 billion.

Liquidity coverage ratio

The LCR measures the short-term resilience of a bank's liquidity profile by comparing whether sufficient HQLA are available to survive expected net cash outflows from a significant liquidity stress scenario, as defined by the relevant regulator.

The Basel Committee on Banking Supervision standards require an LCR of at least 100%. UBS is required to maintain a minimum total Group LCR of 110% as communicated by the Swiss Financial Market Supervisory Authority (FINMA), as well as a Swiss franc LCR of 100%. In addition, both UBS AG and UBS Switzerland AG are subject to minimum LCR requirements on a standalone basis. In a period of financial stress, FINMA may allow banks to use their HQLA and let their LCR temporarily fall below the minimum threshold. We monitor the LCR in all significant currencies in order to manage any currency mismatches between HQLA and the net expected cash outflows in times of stress.

Our daily average LCR for the fourth quarter of 2019 was 134%, compared with 136% in the fourth quarter of 2018, remaining above the 110% Group LCR minimum communicated by FINMA.

The decrease in the LCR mainly reflected reduced HQLA, primarily driven by higher funding consumption by the business divisions and reductions in issued debt that were partly offset by higher deposit balances and a reduction in assets subject to transfer restrictions in the European entities. In addition, net cash outflows decreased, mainly driven by a net reduction of securities financing transactions, partly offset by higher outflows caused by increased customer deposits.

→ **Refer to the 31 December 2019 Pillar 3 report, available under "Pillar 3 disclosures" at *www.ubs.com/investors*, for more information about the LCR**

→ **Refer to the "Significant regulated subsidiary and sub-group information" section of this report for more information about the LCR of UBS AG and UBS Switzerland AG**

Liquidity coverage ratio

USD billion, except where indicated	Average 4Q19[1]	Average 4Q18[1]
High-quality liquid assets[2]		
Cash balances[3]	100	96
Securities (on- and off-balance sheet)	66	78
Total high-quality liquid assets[4]	166	173
Cash outflows[5]		
Retail deposits and deposits from small business customers	28	26
Unsecured wholesale funding	106	102
Secured wholesale funding	74	76
Other cash outflows	40	42
Total cash outflows	248	246
Cash inflows[5]		
Secured lending	81	79
Inflows from fully performing exposures	29	29
Other cash inflows	13	10
Total cash inflows	123	119
Liquidity coverage ratio		
High-quality liquid assets	166	173
Net cash outflows	124	127
Liquidity coverage ratio (%)	134	136

1 Calculated based on an average of 64 data points in the fourth quarter of 2019 and 64 data points in the fourth quarter of 2018. 2 Calculated after the application of haircuts. 3 Includes cash and balances at central banks and other eligible balances as prescribed by FINMA. 4 Calculated in accordance with FINMA requirements. 5 Calculated after the application of inflow and outflow rates.

Asset encumbrance

The table on the next page provides a breakdown of on- and off-balance sheet assets between encumbered assets, unencumbered assets and assets that cannot be pledged as collateral.

Assets are presented as *Encumbered* if they have been pledged as collateral against an existing liability or if they are otherwise not available for the purpose of securing additional funding. Included within the latter category are assets protected under client asset segregation rules, financial assets for unit-linked investment contracts, assets held in certain jurisdictions to comply with explicit minimum local asset maintenance requirements and assets held in consolidated bankruptcy remote entities, such as certain investment funds and other structured entities.

→ **Refer to "Note 26 Restricted and transferred financial assets" in the "Consolidated financial statements" section of this report for more information**

Assets that cannot be pledged as collateral represent those assets that are not encumbered but by their nature are not considered available to secure funding or to meet collateral needs. These mainly include collateral trading assets, derivative financial assets, cash collateral receivables on derivative instruments, deferred tax assets, goodwill and intangible assets and other assets.

All other assets are presented as *Unencumbered*. Assets that are considered to be readily available to secure funding on a Group and/or legal entity level are shown separately and consist of cash and securities readily realizable in the normal course of business. These include our HQLA and unencumbered positions in our trading portfolio. Unencumbered assets that are considered to be available to secure funding on a legal entity level may be subject to restrictions that limit the total amount of assets that is available to the Group as a whole. Other unencumbered assets, which are not considered readily available to secure funding on a Group and/or legal entity level, primarily consist of loans and amounts due from banks.

Asset encumbrance as of 31 December 2019

USD million	Encumbered: Assets pledged as collateral	Encumbered: Assets otherwise restricted and not available to secure funding	Unencumbered: Cash and securities available to secure funding on a Group and/or legal entity level	Unencumbered: Other realizable assets	Assets that cannot be pledged as collateral	Total Group assets (IFRS)
On-balance sheet assets						
Cash and balances at central banks			107,068			107,068
Loans and advances to banks		3,131		9,316		12,447
Receivables from securities financing transactions					84,245	84,245
of which: cash collateral on securities borrowed					*9,507*	*9,507*
of which: reverse repurchase agreements					*74,738*	*74,738*
Cash collateral receivables on derivative instruments		2,986			20,303	23,289
Loans and advances to customers	18,399	620		303,306	4,460	326,786
of which: mortgage loans	*18,399*			*159,749*		*178,149*
Other financial assets measured at amortized cost	1,212	377	12,863	1,444	7,085	22,980
Total financial assets measured at amortized cost	19,611	7,114	119,931	314,066	116,092	576,815
Financial assets at fair value held for trading	56,415[1]	242	68,886	1,971		127,514
of which: trading assets – treasury bills / bonds	*2,700*	*4*	*8,760*			*11,464*
of which: trading assets – mortgage-backed securities			*365*			*365*
of which: trading assets – other asset-backed securities	*2*		*145*			*147*
of which: trading assets – other bonds	*1,947*	*42*	*5,925*			*7,914*
of which: trading assets – investment fund units	*2,671*	*96*	*6,100*			*8,867*
of which: trading assets – equity instruments	*49,096*	*100*	*47,590*			*96,786*
of which: loans				*1,971*		*1,971*
Derivative financial instruments					121,841	121,841
Brokerage receivables					18,007	18,007
of which: customer brokerage					*4,877*	*4,877*
of which: prime brokerage					*13,131*	*13,131*
Financial assets at fair value not held for trading	188	29,676	34,401	13,082	6,598	83,944
Total financial assets measured at fair value through profit or loss	56,604	29,917	103,286	15,053	146,446	351,307
Financial assets measured at fair value through other comprehensive income		176	6,169			6,345
Investments in associates				1,051		1,051
Property, equipment and software				12,804		12,804
Goodwill and intangible assets					6,469	6,469
Deferred tax assets					9,537	9,537
Other non-financial assets		2	4,597		3,256	7,856
Total non-financial assets		2	4,597	13,855	19,262	37,717
Total on-balance sheet	76,215	37,210	233,984	342,974	281,801	972,183

USD million	Encumbered: Assets pledged as collateral	Encumbered: Assets otherwise restricted and not available to secure funding	Unencumbered: Cash and securities available to secure funding on a Group and/or legal entity level	Unencumbered: Other realizable assets	Assets that cannot be pledged as collateral	Total Group assets (IFRS)
Off-balance sheet assets						
Fair value of securities accepted as collateral	350,477	7,003	112,040	6,206		475,726
of which: money market paper as collateral	*6,857*	*248*	*3,502*			*10,606*
of which: other debt instruments as collateral	*198,540*	*5,914*	*86,138*			*290,591*
of which: equity instruments as collateral	*140,312*	*833*	*21,685*			*162,830*
of which: investment fund units as collateral	*4,750*	*8*	*716*			*5,474*
of which: other	*18*			*6,206*		*6,224*
Total on- and off-balance sheet assets as of 31 December 2019	426,691	44,213	346,024	349,180	281,801	
of which: high-quality liquid assets			*178,641*			

1 Includes USD 41,285 million of assets pledged as collateral that may be sold or repledged by counterparties.

Asset encumbrance as of 31 December 2018

	Encumbered		Unencumbered			
USD million	Assets pledged as collateral	Assets otherwise restricted and not available to secure funding	Cash and securities available to secure funding on a Group and/or legal entity level	Other realizable assets	Assets that cannot be pledged as collateral	Total Group assets (IFRS)
On-balance sheet assets						
Cash and balances at central banks			108,370			108,370
Loans and advances to banks		5,140		11,703	25	16,868
Receivables from securities financing transactions					95,349	95,349
of which: cash collateral on securities borrowed					*13,061*	*13,061*
of which: reverse repurchase agreements					*82,288*	*82,288*
Cash collateral receivables on derivative instruments		3,205			20,397	23,602
Loans and advances to customers	18,804	935		294,307	6,306	320,352
of which: mortgage loans	*18,804*			*151,301*		*170,105*
Other financial assets measured at amortized cost		197	13,446	1,091	7,828	22,563
Total financial assets measured at amortized cost	18,804	9,477	121,816	307,101	129,905	587,104
Financial assets at fair value held for trading	43,292[1]	3,589	53,924	3,566		104,370
of which: trading assets – treasury bills / bonds	*4,776*		*6,385*			*11,161*
of which: trading assets – mortgage-backed securities			*258*			*258*
of which: trading assets – other asset-backed securities			*134*			*134*
of which: trading assets – other bonds	*1,660*	*187*	*4,921*			*6,768*
of which: trading assets – investment fund units	*3,541*	*898*	*5,277*			*9,716*
of which: trading assets – equity instruments	*33,315*	*2,504*	*36,949*			*72,768*
of which: loans				*3,566*		*3,566*
Derivative financial instruments					126,210	126,210
Brokerage receivables					16,840	16,840
of which: customer brokerage					*4,384*	*4,384*
of which: prime brokerage					*12,457*	*12,457*
Financial assets at fair value not held for trading		23,514	39,186	9,826	10,163	82,690
Total financial assets measured at fair value through profit or loss	43,292	27,104	93,110	13,392	153,213	330,110
Financial assets measured at fair value through other comprehensive income		171	6,495			6,667
Investments in associates				1,099		1,099
Property, equipment and software				9,348		9,348
Goodwill and intangible assets					6,647	6,647
Deferred tax assets					10,105	10,105
Other non-financial assets		6	4,298		3,106	7,410
Total non-financial assets		6	4,298	10,447	19,858	34,608
Total on-balance sheet	62,096	36,758	225,719	330,940	302,976	958,489

	Encumbered		Unencumbered			
USD million	Assets pledged as collateral	Assets otherwise restricted and not available to secure funding	Cash and securities available to secure funding on a Group and/or legal entity level	Other realizable assets	Assets that cannot be pledged as collateral	Total Group assets (IFRS)
Off-balance sheet assets						
Fair value of securities accepted as collateral	356,745	14,954	109,310	2,678		483,688
of which: money market paper as collateral	*10,110*	*390*	*3,922*			*14,421*
of which: other debt instruments as collateral	*211,156*	*11,204*	*87,788*			*310,148*
of which: equity instruments as collateral	*130,853*	*3,356*	*16,598*			*150,807*
of which: investment fund units as collateral	*4,621*	*4*	*1,003*			*5,628*
of which: other	*5*			*2,678*		*2,683*
Total on- and off-balance sheet assets as of 31 December 2018	418,841	51,712	335,029	333,618	302,976	
of which: high-quality liquid assets			*184,361*			

1 Includes USD 32,121 million of assets pledged as collateral that may be sold or repledged by counterparties.

Assets available to secure funding on a Group and/or legal entity level by currency

USD million	31.12.19	31.12.18
Swiss franc	79,819	79,595
US dollar	146,601	131,838
Euro	32,801	36,874
Other	86,803	86,720
Total	346,024	335,029

Stress testing

Audited | We perform stress testing to determine the optimal asset and liability structure that allows us to maintain an appropriately balanced liquidity and funding position under various scenarios. Liquidity crisis scenario analysis and contingency funding planning support the liquidity management process and aim to ensure that immediate corrective measures to absorb potential sudden liquidity shortfalls can be put into effect. ▲

We model our liquidity exposures under two main potential scenarios that encompass stressed market conditions, including considering the possible effect on our access to markets from stress events affecting all parts of our business. These models and their assumptions are reviewed regularly to incorporate the latest business and market developments. We continuously refine the assumptions used to maintain a robust, actionable and tested contingency plan.

→ **Refer to "Risk measurement" in the "Risk management and control" section of this report for more information about stress testing**

Stressed scenario

As a liquidity crisis could have a myriad of causes, the stressed scenario encompasses potential stress effects across all markets, currencies and products, but it is typically not firm-specific. In addition to the loss of the ability to replace maturing wholesale funding, it assumes a gradual decline of otherwise stable client deposits and liquidity outflows corresponding to a two-notch downgrade in our long-term credit rating, and a corresponding downgrade in our short-term rating.

We use a cash capital model that incorporates the stress scenario and measures the amount of long-term funding available to fund illiquid assets. The illiquid portion of an asset is the difference between the carrying amount of the asset and its effective cash value when used as collateral in a secured funding transaction. Long-term funding used as cash capital to support illiquid assets is comprised of unsecured funding with a remaining time to maturity of at least one year, shareholders' equity and core deposits, which are the portion of our customer deposits that are deemed to have a behavioral maturity of at least one year.

Combined scenario

The combined scenario represents an extreme stress event that combines a firm-specific crisis with market disruption. This scenario assumes: (i) substantial outflows on otherwise stable client deposits, mainly due on demand; (ii) inability to renew or replace maturing unsecured wholesale funding; (iii) unusually large drawdowns on loan commitments; (iv) reduced capacity to generate liquidity from trading assets; (v) liquidity outflows corresponding to a three-notch downgrade in our long-term credit rating, and a corresponding downgrade in our short-term rating; (vi) triggering contractual obligations to unwind derivative positions or to deliver additional collateral; and (vii) additional collateral requirements due to adverse movements in the market values of derivatives. The combined scenario is run daily to project potential cash outflows under it and is assessed as part of ongoing risk management activities.

Contingency Funding Plan

Audited | Our Group Contingency Funding Plan is an integral part of our global crisis management framework, which covers various types of crisis events. This Contingency Funding Plan contains an assessment of contingent funding sources in a stressed environment, liquidity status indicators and metrics, and contingency procedures. Our funding diversification and global scope help protect our liquidity position in the event of a crisis. We regularly assess and test all material known and expected cash flows, as well as the level and availability of high-grade collateral that could be used to raise additional funding if required. Our contingent funding sources include our HQLA portfolios, available and unutilized liquidity facilities at several major central banks, contingent reductions of liquid trading portfolio assets and other available management actions. ▲

Liabilities and funding management

Audited | Group Treasury regularly monitors our funding status, including concentration risks, aiming to ensure that we maintain a well-balanced and diversified liability structure. Our funding risk management aims for the optimal asset and liability structure to finance our businesses reliably and cost-efficiently, and our funding activities are planned by analyzing the overall liquidity and funding profile of our balance sheet, taking into account the amount of stable funding that would be needed to support ongoing business activities through periods of difficult market conditions. ▲

The funding strategy of UBS Group AG is set annually in the Funding Plan and is reviewed on a quarterly basis under its Funding Management Policy governance framework. The Funding Plan is developed by Group Treasury and approved by the Group ALCO. In the execution of the Funding Plan, Group Treasury considers factors such as currency, market and tenor diversification. For specific product types, the operational execution of funding transactions defined in the Funding Plan is delegated to the business divisions (e.g., structured notes to the Investment Bank). Nevertheless, Group Treasury retains overall responsibility and oversight over all product types.

Group Treasury proposes, sets and oversees limits, triggers and targets for funding generation including concentration limits, weighted average maturity floors and volume. Funding diversification is monitored continuously, with a focus on product type, single-counterparty exposure (as a percentage of the total), maturity profile, as well as the overall contribution of a particular funding source to the liability mix.

Our business activities generate asset and liability portfolios that are highly diversified with respect to market, product, tenor and currency. This reduces our exposure to individual funding sources, provides a broad range of investment opportunities and reduces liquidity risk.

Global Wealth Management and Personal & Corporate Banking provide significant, cost-efficient and reliable sources of funding. These include core deposits and Swiss covered bonds, which use (as a pledge) a portion of our portfolio of Swiss residential mortgages as collateral to generate long-term funding. In addition, we have several short-, medium- and long-term funding programs under which we issue senior unsecured debt and structured notes, as well as short-term debt. These programs enable institutional and private investors who are active in the markets of Europe, the US and Asia Pacific to customize their investments in UBS's debt. Collectively, these broad product offerings and funding sources, together with the global scope of our business activities, support our funding stability.

Balance sheet liabilities

Total liabilities increased by USD 12 billion to USD 917 billion as of 31 December 2019, driven mainly by increases in customer deposits, in non-financial liabilities and in financial liabilities related to unit-linked investment contracts, as well as in long-term debt issued. These effects were partly offset by decreases in short-term borrowings and in securities financing transactions at amortized cost. Total liabilities excluding derivatives and cash collateral payables on derivative instruments increased by USD 14 billion to USD 765 billion as of 31 December 2019. Excluding currency effects, total liabilities excluding derivatives and cash collateral payables on derivative instruments increased by USD 12 billion.

Customer deposits increased by USD 28 billion, mainly in Switzerland and Asia Pacific. As of 31 December 2019, our ratio of customer deposits to outstanding loan balances was 137% (31 December 2018: 131%).

Non-financial liabilities and financial liabilities related to unit-linked investment contracts increased by USD 6 billion, driven by an increase in unit-linked investment contracts, with a corresponding increase in associated assets.

Long-term debt issued increased by USD 5 billion. This was the result of a USD 10 billion increase in debt issued designated at fair value, mainly reflecting market-driven movements, partly offset by a USD 5 billion decrease in long-term debt held at amortized cost. The aforementioned decrease was primarily as a result of the maturing and early redemption of USD 9.7 billion equivalent of senior unsecured debt and the maturing of USD 1.1 billion equivalent of covered bonds. The aforementioned instances of maturities were partly offset by the issuance of USD 3.8 billion equivalent of US dollar-, Swiss franc-, Australian dollar- and Singapore dollar-denominated high-trigger loss-absorbing additional tier 1 (AT1) capital instruments and the issuance of USD 1.9 billion equivalent of Swiss franc- and US dollar-denominated senior unsecured debt that contributes to our total loss-absorbing capacity (TLAC).

During the financial year 2020, USD 1.8 billion equivalent of TLAC-eligible benchmark instruments will mature and USD 1.3 billion equivalent of AT1 capital was called in February 2020. UBS is already compliant with its 2020 going and gone concern capital requirements and expects to act rationally and opportunistically with respect to refinancing of any callable capital instruments as well as any potential incremental issuances.

Short-term borrowings decreased by USD 22 billion, mainly reflecting net maturities of commercial papers and certificates of deposit.

Derivatives and cash collateral payables on derivative instruments decreased by USD 2 billion, in line with the aforementioned increase in derivative assets and cash collateral receivables.

→ **Refer to the document titled "UBS Group AG consolidated capital instruments and TLAC-eligible senior unsecured debt," available under "Bondholder information" at *www.ubs.com/investors*, for more information**

→ **Refer to the "Consolidated financial statements" section of this report for more information**

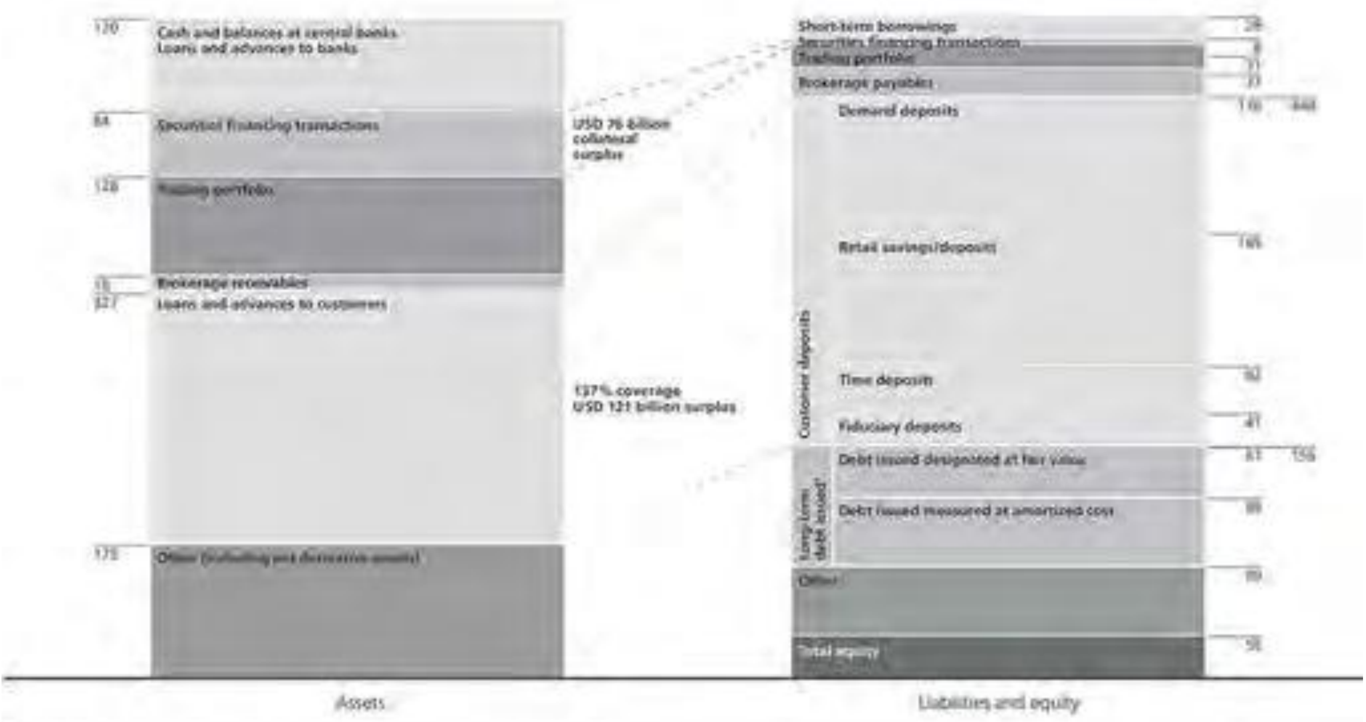
Liabilities and equity

	As of		% change from
USD billion	31.12.19	31.12.18	31.12.18
Short-term borrowings[1]	28.4	50.0	(43)
Securities financing transactions at amortized cost	7.8	10.3	(24)
Customer deposits	448.3	419.8	7
Long-term debt issued[2]	155.5	150.3	3
Trading portfolio[3]	30.6	28.9	6
Derivatives and cash collateral payables on derivative instruments	152.3	154.6	(2)
Brokerage payables	37.2	38.4	(3)
Other financial liabilities measured at amortized cost and fair value[4]	17.5	18.8	(7)
Non-financial liabilities and financial liabilities related to unit-linked investment contracts	39.9	34.2	17
Total liabilities	917.5	905.4	1
Share capital	0.3	0.3	0
Share premium	18.1	20.8	(13)
Treasury shares	(3.3)	(2.6)	26
Retained earnings	34.2	30.4	12
Other comprehensive income[5]	5.3	3.9	35
Total equity attributable to shareholders	54.5	52.9	3
Equity attributable to non-controlling interests	0.2	0.2	(1)
Total equity	54.7	53.1	3
Total liabilities and equity	972.2	958.5	1

1 Consists of short-term debt issued measured at amortized cost and amounts due to banks. 2 Consists of long-term debt issued measured at amortized cost and debt issued designated at fair value. The classification of debt issued into short-term and long-term does not consider any early redemption features. Long-term debt issued also includes debt with a remaining time to maturity of less than one year. 3 Consists of financial liabilities at fair value held for trading. 4 Consists of financial liabilities at fair value not held for trading, financial liabilities measured at fair value through other comprehensive income and other financial liabilities measured at amortized cost, but excludes financial liabilities related to unit-linked investment contracts. 5 Excludes defined benefit plans and own credit that are recorded directly in Retained earnings.

Asset funding

USD billion, except where indicated
As of 31.12.19



1 Long-term debt issued also includes debt with a remaining time to maturity of less than one year.

Liabilities by product and currency

	USD billion		As a percentage of total liabilities									
	All currencies		USD		CHF		EUR		Other		All currencies	
	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18
Short-term borrowings	28.4	50.0	1.6	3.1	0.3	0.3	0.6	1.3	0.7	0.8	3.1	5.5
of which: due to banks	*6.6*	*11.0*	*0.2*	*0.4*	*0.3*	*0.3*	*0.1*	*0.2*	*0.2*	*0.3*	*0.7*	*1.2*
of which: short-term debt issued[1]	*21.8*	*39.0*	*1.4*	*2.7*	*0.0*	*0.0*	*0.5*	*1.1*	*0.5*	*0.5*	*2.4*	*4.3*
Securities financing transactions	7.8	10.3	0.8	0.9	0.0	0.0	0.0	0.0	0.0	0.2	0.8	1.1
Customer deposits	448.3	419.8	17.0	15.8	21.4	20.0	5.8	6.2	4.6	4.4	48.9	46.4
of which: demand deposits	*176.0*	*181.9*	*4.4*	*4.5*	*7.6*	*7.6*	*4.4*	*5.2*	*2.7*	*2.8*	*19.2*	*20.1*
of which: retail savings / deposits	*168.6*	*165.8*	*6.0*	*6.0*	*11.8*	*11.7*	*0.5*	*0.6*	*0.0*	*0.0*	*18.4*	*18.3*
of which: time deposits	*62.3*	*53.6*	*4.8*	*3.8*	*0.3*	*0.6*	*0.0*	*0.1*	*1.7*	*1.4*	*6.8*	*5.9*
of which: fiduciary deposits	*41.4*	*18.6*	*1.7*	*1.5*	*1.8*	*0.1*	*0.8*	*0.3*	*0.2*	*0.2*	*4.5*	*2.0*
Long-term debt issued[2]	155.5	150.3	10.0	9.5	1.6	1.4	3.4	4.0	1.9	1.7	16.9	16.6
of which: senior unsecured debt	*55.7*	*63.0*	*3.5*	*3.7*	*0.1*	*0.1*	*1.9*	*2.4*	*0.5*	*0.6*	*6.1*	*6.9*
of which: covered bonds	*2.6*	*3.9*	*0.0*	*0.0*	*0.0*	*0.0*	*0.3*	*0.4*	*0.0*	*0.0*	*0.3*	*0.4*
of which: subordinated debt	*21.8*	*17.7*	*1.8*	*1.5*	*0.0*	*0.0*	*0.4*	*0.4*	*0.2*	*0.1*	*2.4*	*1.9*
of which: debt issued through the Swiss central mortgage institutions	*8.6*	*8.6*	*0.0*	*0.0*	*0.9*	*0.9*	*0.0*	*0.0*	*0.0*	*0.0*	*0.9*	*0.9*
of which: other long-term debt	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
of which: debt issued measured at fair value	*66.8*	*57.0*	*4.8*	*4.2*	*0.5*	*0.4*	*0.8*	*0.7*	*1.2*	*0.9*	*7.3*	*6.2*
Trading portfolio	30.6	28.9	1.1	1.5	0.1	0.1	0.5	0.4	1.7	1.2	3.3	3.2
Derivatives and cash collateral payables on derivative instruments	152.3	154.6	13.7	14.2	0.2	0.2	1.8	1.0	0.9	1.7	16.6	17.1
Brokerage payables	37.2	38.4	3.0	2.9	0.1	0.1	0.3	0.3	0.6	0.9	4.1	4.2
Other financial liabilities measured at amortized cost and fair value[3]	17.5	18.8	1.2	1.3	0.2	0.2	0.2	0.5	0.3	0.2	1.9	2.0
Non-financial liabilities and financial liabilities related to unit-linked investment contracts	39.9	34.2	0.6	0.6	0.2	0.2	0.1	0.2	3.4	2.7	4.4	3.7
Total liabilities	917.5	905.4	49.0	49.9	24.1	22.5	12.7	13.9	14.2	13.7	100.0	100.0

1 Short-term debt issued is comprised of certificates of deposit, commercial paper, acceptances and promissory notes, and other money market paper. 2 Consists of long-term debt issued measured at amortized cost and debt issued designated at fair value. The classification of debt issued into short-term and long-term does not consider any early redemption features. Long-term debt issued also includes debt with a remaining time to maturity of less than one year. 3 Consists of financial liabilities at fair value not held for trading, financial liabilities measured at fair value through other comprehensive income and other financial liabilities measured at amortized cost, but excludes financial liabilities related to unit-linked investment contracts.

Net stable funding ratio

The net stable funding ratio (NSFR) framework is intended to limit overreliance on short-term wholesale funding, to encourage a better assessment of funding risk across all on- and off-balance sheet items and to promote funding stability. The NSFR has two components: available stable funding (ASF) and required stable funding (RSF). ASF is the portion of capital and liabilities expected to be available over the period of one year. RSF is a measure of the stable funding requirement of an asset based on its maturity, encumbrance and other characteristics, as well as the potential for contingent calls on funding liquidity from off-balance sheet exposures. The Basel Committee on Banking Supervision (BCBS) NSFR regulatory framework requires a ratio of at least 100% from 2018.

We report our estimated pro forma NSFR based on current guidance from FINMA and will adjust our NSFR reporting according to the final implementation of the BCBS NSFR disclosure standards in Switzerland. The calculation of our pro forma NSFR includes interpretation and estimates of the effect of the NSFR rules. It will continue to be refined when NSFR rule-making is completed in Switzerland, as regulatory interpretations evolve and as new models and associated systems are enhanced. After delaying the introduction of the NSFR framework in Switzerland for the past two years in order to align with developments in the EU and the US, the Swiss Federal Council has decided to adopt the associated ordinance amendments in early summer 2020, and to bring them into force by mid-2021. The Federal Department of Finance has been mandated to finalize the necessary regulatory texts jointly with relevant stakeholders, including those from industry, in the upcoming months.

As of 31 December 2019, our estimated pro forma NSFR was 111%, an increase of 1 percentage point compared with 31 December 2018. This mainly reflected a USD 19 billion increase in available stable funding, mainly driven by an increase in deposits. This effect was largely offset by a USD 16 billion increase in required stable funding, mainly due to an increase in trading assets and calculation refinements.

Internal funding and funds transfer pricing

We utilize an integrated liquidity and funding framework to govern the liquidity management of all our branches and subsidiaries, and our major sources of liquidity are channeled through entities that are fully consolidated. Group Treasury meets internal demands for funding by channeling funds from entities generating surplus cash to those in need of financing, except in those circumstances where transfer restrictions exist.

Funding costs and benefits are allocated to our business divisions according to our liquidity and funding risk management framework. Our internal funds transfer pricing system, which is governed by Group Treasury, is designed to provide the proper liability structure to support the assets and planned activities of each business division. The funds transfer pricing mechanisms aim to allocate funding and liquidity costs to the activities generating the liquidity and funding risks, and deals with the movement of funds from those businesses in surplus to those that have a shortfall. Funding is internally transferred or allocated among businesses at rates and tenors that reflect each business's asset composition, liquidity and reliable external funding, and is, for major subsidiaries, entity-specific. We regularly review our internal funds transfer pricing mechanisms and make enhancements where appropriate to help better accomplish our liquidity and funding management objectives.

Credit ratings

Credit ratings can affect the cost and availability of funding, especially funding from wholesale unsecured sources. Our credit ratings can also influence the performance of some of our businesses and the levels of client and counterparty confidence. Rating agencies take into account a range of factors when assessing creditworthiness and setting credit ratings. These include the company's strategy, its business position and franchise value, stability and quality of earnings, capital adequacy, risk profile and management, liquidity management, diversification of funding sources, asset quality and corporate governance. Credit ratings reflect the opinions of the rating agencies and can change at any time.

In evaluating our liquidity and funding requirements, we consider the potential effect of a reduction in UBS's long-term credit ratings and a corresponding reduction in short-term ratings.

Pro forma net stable funding ratio

USD billion, except where indicated	31.12.19	31.12.18
Available stable funding	488	469
Required stable funding	442	426
Pro forma net stable funding ratio (%)	111	110

If our credit ratings were to be downgraded, rating trigger clauses could result in an immediate cash settlement or the need to deliver additional collateral to counterparties from contractual obligations related to over-the-counter (OTC) derivative positions and other obligations. Based on our credit ratings as of 31 December 2019, USD 0.0 billion, USD 0.5 billion and USD 0.9 billion would have been required for such contractual obligations in the event of a one-notch, two-notch and three-notch reduction in long-term credit ratings, respectively. Of these, the portion related to additional collateral is USD 0.0 billion, USD 0.3 billion and USD 0.6 billion, respectively.

There was one main rating action on UBS Group AG's and UBS AG's solicited credit ratings in 2019. On 21 November 2019, Rating and Investment Information (R&I) upgraded UBS Group AG's issuer rating to A+ from A, while revising its outlook from positive to stable.

→ **Refer to "Liquidity and funding management are critical to UBS's ongoing performance" in the "Risk factors" section of this report for more information**

Equity

Equity attributable to shareholders increased by USD 1,605 million to USD 54,533 million as of 31 December 2019.

Total comprehensive income attributable to shareholders was positive USD 5,089 million, reflecting net profit of USD 4,304 million and positive other comprehensive income (OCI) of USD 785 million. OCI consisted of positive cash flow hedge OCI of USD 1,143 million, positive OCI related to financial assets measured at fair value through OCI of USD 117 million and positive foreign currency translation OCI of USD 104 million, partly offset by negative OCI related to own credit of USD 392 million and negative defined benefit plan OCI of USD 186 million.

Share premium decreased by USD 2,779 million, mainly due to the dividend distribution of USD 2,544 million to shareholders out of the capital contribution reserve of UBS Group AG and a reduction of USD 886 million from the delivery of treasury shares under share-based compensation plans, partly offset by an increase of USD 619 million due to the amortization of deferred equity compensation awards in the income statement.

Net treasury share activity decreased equity attributable to shareholders by USD 695 million, mainly as a result of share repurchases of USD 806 million in 2019 under our share repurchase program, partly offset by the net disposal of treasury shares related to employee share-based compensation awards.

The effect of adopting IFRIC 23, *Uncertainty over Income Tax Treatments*, decreased equity attributable to shareholders by USD 11 million.

Equity attributable to non-controlling interests decreased by USD 2 million to USD 174 million.

→ **Refer to the "Group performance" and "Consolidated financial statements" sections of this report for more information**

→ **Refer to "UBS shares" in the "Capital management" section of this report for more information about the share repurchase program**

→ **Refer to "Note 1b Changes in accounting policies, comparability and other adjustments" in the "Consolidated financial statements" section of this report for more information about the adoption of IFRIC 23**

Maturity analysis of assets and liabilities

The tables on the following pages provide an analysis of on- and off-balance sheet assets and liabilities by residual contractual maturity as of the balance sheet date. The contractual maturity of liabilities is based on carrying amounts and the earliest date on which we could be required to pay. The contractual maturity of assets is based on carrying amounts and includes the effect of callable features. The presentation of liabilities at carrying amount in this table differs from "Note 27 Maturity analysis of financial liabilities" in the "Consolidated financial statements" section of this report, where these liabilities are presented on an undiscounted basis, as required by International Financial Reporting Standards.

Derivative financial instruments and financial assets and liabilities at fair value held for trading are assigned to the column *Due within 1 month,* noting that the respective contractual maturities may extend over significantly longer periods.

Assets held to hedge unit-linked investment contracts (presented within Financial assets at fair value not held for trading) are assigned to the column *Due within 1 month*, consistent with the maturity assigned to the related amounts due under unit-linked investment contracts (presented within Other financial liabilities designated at fair value).

Other financial assets and liabilities with no contractual maturity, such as equity securities, are included in the *Perpetual / Not applicable* time bucket. Undated or perpetual instruments are classified based on the contractual notice period that the counterparty of the instrument is entitled to give. Where there is no contractual notice period, undated or perpetual contracts are included in the *Perpetual / Not applicable* time bucket.

Non-financial assets and liabilities with no contractual maturity are generally included in the *Perpetual / Not applicable* time bucket.

Loan commitments are classified on the basis of the earliest date they can be drawn down.

Maturity analysis of assets and liabilities

USD billion	Due within 1 month	Due between 1 and 3 months	Due between 3 and 6 months	Due between 6 and 9 months	Due between 9 and 12 months	Due between 1 and 2 years	Due between 2 and 5 years	Due over 5 years	Perpetual / Not applicable	Total
Assets										
Cash and balances at central banks	107.0							0.1		107.1
Loans and advances to banks	11.2	0.6	0.2	0.2	0.1	0.0	0.2	0.0		12.4
Receivables from securities financing transactions	57.2	16.8	4.3	4.0	1.0	0.8	0.2			84.2
Cash collateral receivables on derivative instruments	23.3									23.3
Loans and advances to customers	118.9	36.7	14.0	8.3	9.1	27.1	60.6	52.0		326.8
Other financial assets measured at amortized cost	5.1	0.6	0.4	0.7	0.6	1.9	5.9	7.8		23.0
Total financial assets measured at amortized cost	322.6	54.8	18.9	13.2	10.7	29.7	66.8	60.0		576.8
Financial assets at fair value held for trading	127.5									127.5
of which: assets pledged as collateral that may be sold or repledged by counterparties	*41.3*									*41.3*
Derivative financial instruments	121.8									121.8
Brokerage receivables	18.0									18.0
Financial assets at fair value not held for trading	36.6	4.8	5.2	2.8	4.7	15.2	11.4	1.9	1.3	83.9
Total financial assets measured at fair value through profit or loss	303.9	4.8	5.2	2.8	4.7	15.2	11.4	1.9	1.3	351.3
Financial assets measured at fair value through other comprehensive income	0.2	0.1	0.3	0.2	0.3	0.4	0.2	4.7	0.0	6.3
Investments in associates									1.1	1.1
Property, equipment and software									12.8	12.8
Goodwill and intangible assets									6.5	6.5
Deferred tax assets									9.5	9.5
Other non-financial assets	6.6						1.3	0.0		7.9
Total assets as of 31 December 2019	633.4	59.8	24.4	16.2	15.7	45.3	79.6	66.6	31.2	972.2
Total assets as of 31 December 2018	626.5	63.0	24.2	17.0	18.9	37.4	80.6	62.2	28.6	958.5
Liabilities										
Amounts due to banks	5.3	0.3	0.1	0.2	0.1	0.3	0.2	0.0		6.6
Payables from securities financing transactions	7.4	0.1	0.3	0.0						7.8
Cash collateral payables on derivative instruments	31.4									31.4
Customer deposits	422.9	16.0	4.3	0.9	1.8	1.1	1.2	0.0		448.3
Debt issued measured at amortized cost	4.3	4.4	13.8	8.6	6.5	9.9	28.4	20.3	14.3	110.5
Other financial liabilities measured at amortized cost	5.8	0.1	0.1	0.1	0.1	0.5	1.2	1.8		9.7
Total financial liabilities measured at amortized cost	477.2	21.0	18.6	9.9	8.6	11.7	30.9	22.1	14.3	614.3
Financial liabilities at fair value held for trading	30.6									30.6
Derivative financial instruments	120.9									120.9
Brokerage payables designated at fair value	37.2									37.2
Debt issued designated at fair value	20.4	17.3	3.9	4.1	2.1	10.2	2.0	6.7		66.8
Other financial liabilities designated at fair value	34.1	0.4	0.2	0.2	0.0	0.0	0.4	0.6		35.9
Total financial liabilities measured at fair value through profit or loss	243.2	17.7	4.1	4.4	2.1	10.3	2.3	7.3		291.5
Provisions	3.0									3.0
Other non-financial liabilities	3.7	2.6							2.5	8.8
Total liabilities as of 31 December 2019	727.1	41.2	22.7	14.3	10.7	22.0	33.3	29.4	16.8	917.5
Total liabilities as of 31 December 2018	699.7	41.4	28.6	17.6	11.7	23.6	37.7	32.7	12.5	905.4

Guarantees, commitments and forward starting transactions										
Loan commitments	33.1	0.5	0.2	0.1	0.0	0.0	0.0			33.9
Guarantees	19.1									19.1
Reverse repurchase agreements	21.9		0.0							21.9
Securities borrowing agreements										
Total as of 31 December 2019	74.1	0.5	0.2	0.1	0.0	0.0	0.0	0.0		74.9
Total as of 31 December 2018	63.0	0.3	0.2	0.1	0.2	0.0	0.0	0.0		63.6

Off-balance sheet

Off-balance sheet arrangements

In the normal course of business, we enter into transactions where, in accordance with International Financial Reporting Standards, the maximum contractual exposure may not be recognized in whole or in part on our balance sheet. These transactions include derivative instruments, guarantees and similar arrangements, as well as some purchased and retained interests in non-consolidated structured entities, which are transacted for a number of reasons, including hedging and market-making activities, to meet specific needs of our clients or to offer investment opportunities to clients through entities that are not controlled by us.

When we incur an obligation or become entitled to an asset through these arrangements, we recognize them on the balance sheet. It should be noted that in certain instances the amount recognized on the balance sheet does not represent the full gain or loss potential inherent in such arrangements.

→ **Refer to "Note 1a Significant accounting policies," items 1, 3a and 3d, and "Note 31 Interests in subsidiaries and other entities" in the "Consolidated financial statements" section of this report for more information**

The following paragraphs provide more information about several distinct off-balance sheet arrangements. Additional off-balance sheet information is primarily provided in Notes 10, 11, 21, 23, 24i, 26, 31 and 34 in the "Consolidated financial statements" section of this report, as well as in the 31 December 2019 Pillar 3 report under "Pillar 3 disclosures" at *www.ubs.com/investors.*

Off-balance sheet development in 2019

Forward starting reverse repurchase agreements increased by USD 13 billion, mainly reflecting higher client activity levels related to forward starting transactions in the repo market. Forward starting repurchase agreements were stable at USD 8 billion and guarantees were also stable at USD 16 billion. Loan commitments decreased by USD 1 billion, primarily reflecting a decrease in our Corporate Client Solutions business in the Investment Bank, resulting from commitments that were funded, canceled or syndicated during the year. Committed unconditionally revocable credit lines decreased by USD 2 billion.

Off-balance sheet

	As of		% change from
USD billion	31.12.19	31.12.18	31.12.18
Total guarantees[1]	16.5	17.0	(3)
Loan commitments[1]	33.1	34.1	(3)
Forward starting reverse repurchase agreements[1]	21.9	9.0	143
Forward starting repurchase agreements[1]	8.1	8.3	(2)
Committed unconditionally revocable credit lines[2]	35.1	36.6	(4)

1 These lines are aligned with the scope disclosed in "Note 34 Guarantees, commitments and forward starting transactions" in the "Consolidated financial statements" section of this report. Total guarantees and Loan commitments are shown net of sub-participations. 2 Refer to "Note 10 Financial assets at amortized cost and other positions in scope of expected credit loss measurement" in the "Consolidated financial statements" section of this report for more information.

Risk disclosures, including our involvement with off-balance sheet vehicles

Refer to the "Risk management and control" section of this report for comprehensive credit, market and liquidity risk information related to our exposures, which includes exposures to off-balance sheet vehicles.

Support provided to non-consolidated investment funds

In 2019, the Group did not provide material support, financial or otherwise, to unconsolidated investment funds when the Group was not contractually obligated to do so, nor does the Group have an intention to do so.

Guarantees and similar arrangements

In the normal course of business, we issue various forms of guarantees, commitments to extend credit, standby and other letters of credit to support our clients, commitments to enter into forward starting transactions, note issuance facilities and revolving underwriting facilities. With the exception of related premiums, generally these guarantees and similar obligations are kept as off-balance sheet items unless a provision to cover probable losses or expected credit losses is required.

Guarantees represent irrevocable assurances that, subject to the satisfaction of certain conditions, we will make payments in the event that our clients fail to fulfill their obligations to third parties. As of 31 December 2019, the net exposure (gross values less sub-participations) from guarantees and similar instruments was USD 16.5 billion compared with USD 17.0 billion as of 31 December 2018. Fee income from issuing guarantees was not significant to total revenues in 2019 and 2018.

We also enter into commitments to extend credit in the form of credit lines that are available to secure the liquidity needs of our clients. The majority of these unutilized credit lines range in maturity from one month to five years. The committed unconditionally revocable credit lines are generally open-ended. If customers fail to meet their obligations, our maximum exposure to credit risk is the contractual amount of these instruments. The risk is similar to the risk involved in extending loan facilities and is subject to the same risk management and control framework. In 2019, we recognized net credit loss recoveries of USD 6 million related to loan commitments, guarantees and other credit facilities in scope of expected credit loss measurement compared with net credit loss expenses of USD 12 million in 2018. Provisions recognized for guarantees and loan commitments were USD 114 million as of 31 December 2019 and USD 116 million as of 31 December 2018.

→ **Refer to "Note 10 Financial assets at amortized cost and other positions in scope of expected credit loss measurement" and "Note 23 Expected credit loss measurement" in the "Consolidated financial statements" section of this report for more information about provisions for loan commitments and guarantees**

For certain obligations, we enter into partial sub-participations to mitigate various risks from guarantees and loan commitments. A sub-participation is an agreement by another party to take a share of the loss in the event that the obligation is not fulfilled by the obligor and, where applicable, to fund a part of the credit facility. We retain the contractual relationship with the obligor, and the sub-participant has only an indirect relationship. We only enter into sub-participation agreements with banks to which we ascribe a credit rating equal to or better than that of the obligor.

Furthermore, we provide representations, warranties and indemnifications to third parties in the normal course of business.

Clearing house and exchange memberships

We are a member of numerous securities and derivative exchanges and clearing houses. In connection with some of those memberships, we may be required to pay a share of the financial obligations of another member who defaults or we may be otherwise exposed to additional financial obligations. While the membership rules vary, obligations generally would arise only if the exchange or clearing house had exhausted its resources. We consider the probability of a material loss due to such obligations to be remote.

Deposit insurance

Swiss banking law and the deposit insurance system require Swiss banks and securities dealers to jointly guarantee an amount of up to CHF 6 billion for privileged client deposits in the event that a Swiss bank or securities dealer becomes insolvent. FINMA estimates our share in the deposit insurance system to be CHF 0.9 billion.

As a member of the Deposit Protection Fund of the Association of German Banks (the Fund), we are required to provide an indemnity to the Fund related to its coverage of certain non-institutional deposits (for amounts above EUR 100,000 and below EUR 235 million per depositor until 31 December 2019, from 1 January 2020 above EUR 100,000 and below EUR 176 million) in the event that UBS Europe SE becomes unable to meet its obligations.

The aforementioned deposit insurance requirements represent a contingent payment obligation and expose us to additional risk. As of 31 December 2019, we considered the probability of a material loss from our obligations to be remote.

Contractual obligations

	Payment due by period				
USD million	Within 1 year	1–3 years	3–5 years	Over 5 years	Total
Long-term debt obligations	66,652	37,534	21,519	43,622	169,327
Lease obligations	658	1,107	898	2,073	4,736
Purchase obligations	1,069	780	301	111	2,260
Total as of 31 December 2019	68,379	39,421	22,717	45,806	176,323

Contractual obligations

The table above summarizes payments due by period under contractual obligations as of 31 December 2019.

All contractual obligations included in this table, with the exception of purchase obligations (i.e., those in which we are committed to purchasing goods and services), and lease commitments included within *Lease obligations*, are recognized as liabilities on our balance sheet. Amounts in the table above are presented on an undiscounted basis.

Long-term debt obligations as of 31 December 2019 were USD 169 billion. They consisted of debt issued designated at fair value (USD 68 billion) and long-term debt issued measured at amortized cost (USD 101 billion) and represent estimated future interest and principal payments on an undiscounted basis.

→ **Refer to "Note 27 Maturity analysis of financial liabilities" in the "Consolidated financial statements" section of this report for more information**

More than half of total long-term debt obligations had a fixed-rate of interest. Amounts due on interest rate swaps used to hedge interest rate risk inherent in floating-rate debt issued, and designated in fair value hedge accounting relationships, are not included in the table above. The notional amount of these interest rate swaps was USD 65 billion as of 31 December 2019. Debt issued designated at fair value mainly consists of structured notes and is generally economically hedged, but it would not be practicable to estimate the amount and/or timing of the payments on interest swaps used to hedge these instruments as interest rate risk inherent in respective liabilities is generally risk-managed on a portfolio level.

Within purchase obligations, obligations to employees under mandatory notice periods are excluded (i.e., the periods in which we must pay contractually agreed salaries to employees leaving the firm).

Our liabilities recognized on the balance sheet as *Amounts due to banks*, *Payables from securities financing transactions, Cash collateral payables on derivative instruments, Customer deposits, Other financial liabilities measured at amortized cost, Financial liabilities at fair value held for trading, Derivative financial instruments, Brokerage payables designated at fair value, Other financial liabilities designated at fair value, Provisions* and *Other non-financial liabilities* are excluded from the table above.

→ **Refer to the respective Notes, including "Note 28 Hedge accounting," in the "Consolidated financial statements" section of this report for more information**

Currency management

Strategy, objectives and governance

Group Treasury focuses on three principal areas of currency risk management: (i) currency-matched funding and investment of non-US dollar assets and liabilities; (ii) sell-down of non-US dollar profits and losses; and (iii) selective hedging of anticipated non-US dollar profits and losses to further mitigate the effect of structural imbalances in the balance sheet. Non-trading foreign exchange risks arising from transactions denominated in a currency other than the reporting entity's functional currency are managed under market risk limits. Activities performed by Group Treasury include the management of the structural currency composition at the consolidated Group level.

Currency-matched funding and investment of non-US dollar assets and liabilities

For monetary balance sheet items and other investments, as far as it is practical and efficient, we follow the principle of matching the currencies of our assets and liabilities for funding purposes. This avoids profits and losses arising from the translation of non-US dollar assets and liabilities.

Net investment hedge accounting is applied to non-US dollar core investments to balance the effect of foreign exchange movements on both common equity tier 1 (CET1) capital and the CET1 capital ratio.

→ **Refer to "Note 1a Significant accounting policies" and "Note 11 Derivative instruments" in the "Consolidated financial statements" section of this report for more information**

Sell-down of non-US dollar reported profits and losses

Income statement items of foreign subsidiaries and branches of UBS AG with a functional currency other than the US dollar are translated into US dollars at average rates. To reduce earnings volatility on the translation of previously recognized earnings in foreign currencies, Group Treasury centralizes the profits and losses arising in UBS AG and its branches and sells or buys the profit or loss for US dollars. Our foreign subsidiaries follow a similar monthly sell-down process into their own functional currencies. Retained earnings in foreign subsidiaries with a functional currency other than the US dollar are integrated and managed as part of our net investment hedge accounting program.

Hedging of anticipated non-US dollar profits and losses

The Group ALCO may at any time instruct Group Treasury to execute hedges to protect anticipated future profits and losses in foreign currencies against possible adverse trends of foreign exchange rates. Although intended to hedge future earnings, these transactions are accounted for as open currency positions and are subject to internal market risk limits for value-at-risk and stress loss limits.

→ **Refer to the "Capital management" section of this report for more information about our active management of sensitivity to currency movements and its effect on our key ratios**

Dividend distribution

Following the change in functional currency of UBS Group AG to the US dollar, effective from 1 October 2018, dividends were accrued in US dollars over the course of 2019 to align the dividend declaration currency to the functional currency. As a result, starting with the dividend for the financial year 2019, UBS Group AG will declare dividends in US dollars going forward. Shareholders whose shares are held through SIX (ISIN: CH0244767585) will receive dividends in Swiss francs, based on a published exchange rate calculated up to five decimal places, on the day prior to the ex-dividend date. Shareholders holding shares through DTC (ISIN: CH0244767585; CUSIP: H42097107) will be paid dividends in US dollars.

→ **Refer to the "Standalone financial statements" section of this report for more information about the proposed dividend distribution of UBS Group AG**

Cash flows

As a global financial institution, our cash flows are complex and often may bear little relation to our net earnings and net assets. Consequently, we believe that a traditional cash flow analysis is less meaningful when evaluating our liquidity position than the liquidity, funding and capital management frameworks and measures described elsewhere in the "Risk, treasury and capital management" section of this report.

Cash and cash equivalents

As of 31 December 2019, cash and cash equivalents totaled USD 119.9 billion, a decrease of USD 6.2 billion from 31 December 2018, driven by net cash outflows from financing and investing activities, partly offset by net cash inflows from operating activities.

Operating activities

Net cash inflows from operating activities were USD 19.7 billion in 2019. Net operating cash flow, before changes in operating assets and liabilities and income taxes paid, was an inflow of USD 14.3 billion. Changes in operating assets and liabilities resulted in net cash inflows of USD 5.4 billion, mainly driven by a USD 23.2 billion net inflow related to customer deposits and an USD 8.7 billion inflow from securities financing transactions. These inflows were partly offset by a net outflow from financial assets and liabilities at fair value held for trading and derivative financial instruments of USD 18.8 billion and net outflows from loans and advances to banks of USD 4.3 billion and from lending balances to customers of USD 3.1 billion.

In 2018, net cash inflows from operating activities were USD 28.9 billion. Net operating cash flow, before changes in operating assets and liabilities and income taxes paid, was an outflow of USD 0.2 billion. Changes in operating assets and liabilities resulted in net cash inflows of USD 29.1 billion, mainly driven by an USD 11.4 billion net inflow related to brokerage receivables and payables, an USD 11.1 billion net inflow from financial assets at fair value not held for trading and other financial assets and liabilities, an USD 11.1 billion inflow from financial assets and liabilities at fair value held for trading and derivative financial instruments, and a USD 9.1 billion inflow from customer deposits. These inflows were partly offset by a net outflow from securities financing transactions of USD 11.2 billion and a net outflow from lending balances to customers of USD 5.2 billion.

Investing activities

Investing activities resulted in a net cash outflow of USD 1.6 billion in 2019, primarily related to net cash outflows of USD 3.4 billion from the purchase of financial assets measured at fair value through other comprehensive income and a USD 1.6 billion outflow from the purchase of property, equipment and software. These outflows were partly offset by a net inflow from the disposal and redemption of financial assets measured at fair value through other comprehensive income of USD 3.9 billion.

In 2018, investing activities resulted in a net cash outflow of USD 6.1 billion, primarily related to net cash outflows of USD 3.8 billion from the purchase and redemption of debt securities measured at amortized cost.

Financing activities

Financing activities resulted in a net cash outflow of USD 25.6 billion in 2019, mainly due to the net repayment of USD 17.1 billion of short-term debt and the net repayment of USD 3.8 billion of long-term debt, which includes debt issued designated at fair value. In addition, a dividend distribution to shareholders of USD 2.5 billion and net cash used to acquire treasury shares of USD 1.6 billion contributed to the net cash outflow.

In 2018, financing activities resulted in a net cash inflow of USD 0.2 billion, mainly due to the net issuance of USD 16.3 billion of long-term debt, which includes debt issued designated at fair value, partly offset by the net repayment of USD 12.2 billion of short-term debt, a dividend distribution to shareholders of USD 2.4 billion and net cash used to acquire treasury shares of USD 1.4 billion.

→ **Refer to "Primary financial statements" in the "Consolidated financial statements" section of this report for more information about cash flows**

Statement of cash flows (condensed)

	For the year ended	
USD million	31.12.19	31.12.18
Net cash flow from / (used in) operating activities	19,705	28,913
Net cash flow from / (used in) investing activities	(1,558)	(6,132)
Net cash flow from / (used in) financing activities	(25,614)	190
Effects of exchange rate differences on cash and cash equivalents	1,261	(1,726)
Net increase / (decrease) in cash and cash equivalents	(6,207)	21,245
Cash and cash equivalents at the end of the year	119,873	126,079

Capital management

Capital management objectives, planning and activities

Capital management objectives

Audited | An adequate level of total loss-absorbing capacity (TLAC) in accordance with both our internal assessment and regulatory requirements is a prerequisite for conducting our business activities.▲ We are therefore committed to maintaining a strong TLAC position and sound TLAC ratios at all times, in order to meet regulatory capital requirements and our target capital ratios, and to support the growth of our businesses.

We expect to meet known future increases in TLAC requirements mainly through a combination of retaining earnings and issuing high-trigger loss-absorbing additional tier 1 (AT1) capital instruments, including Deferred Contingent Capital Plan (DCCP) employee compensation awards, as well as issuing senior unsecured debt that contributes to our TLAC.

As of 31 December 2019, our common equity tier 1 (CET1) capital ratio and our CET1 leverage ratio were 13.7% and 3.9%, respectively, each of which is above our capital guidance and above the requirements for Swiss systemically relevant banks (SRBs) as well as the Basel Committee on Banking Supervision (BCBS) requirements. We believe that our capital strength is a source of confidence for our stakeholders, contributes to our strong credit ratings and is one of the foundations of our success.

The BCBS announced the finalization of the Basel III framework in December 2017 and published the final rules on the minimum capital requirements for market risk (the Fundamental Review of the Trading Book) in January 2019. We currently expect the Swiss Financial Market Supervisory Authority (FINMA) to implement these regulations later than the originally communicated effective date of 1 January 2022. We will monitor implementation and assess the effect on UBS once the final national law is available. In the absence of the final national law, we continue to make progress on our internal assessment of infrastructure design and operational governance to anticipate the upcoming adoption of these rules. We have previously provided guidance on the approximate impact of Basel III finalization on RWA. As the implementation has now been extended by at least a year, the day-1 impact could be lower than we originally believed, but there is still too much uncertainty for an update to be provided.

→ **Refer to the "Our strategy" and "Performance targets and measurement" sections of this report for more information about our capital and resource guidelines 2020–2022**

→ **Refer to "Our stated capital returns objective is based, in part, on capital ratios that are subject to regulatory change and may fluctuate significantly" in the "Risk factors" section of this report for more information about the risks related to our capital ratios**

Capital planning and activities

Audited | We manage our balance sheet, RWA, the leverage ratio denominator (the LRD) and TLAC ratio levels within our internal limits and targets and on the basis of our regulatory TLAC requirements. Our strategic focus is to achieve an optimal attribution and use of financial resources between our business divisions and Corporate Center, as well as between our legal entities, while remaining within the limits defined for the Group and allocated to the business divisions by the Board of Directors (the BoD). These resource allocations, in turn, affect business plans and earnings projections, which are reflected in our capital plans.

The annual strategic planning process includes a capital-planning component that is key in defining medium- and longer-term capital targets. It is based on an attribution of Group RWA and LRD internal limits to the business divisions.

Limits and targets are established at both the Group and business division levels, and are submitted to the BoD for approval at least annually. In the target-setting process, we take into account the current and potential future TLAC requirements, our aggregate risk exposure in terms of capital-at-risk, the assessment by rating agencies, comparisons with peers and the effect of expected accounting policy changes.▲ Monitoring is based on these internal limits and targets and provides indications if changes are required. Any breach of the limits in place triggers the imposition of a series of required remediating actions.

Group Treasury plans for, and monitors, consolidated TLAC information on an ongoing basis, also considering developments in capital regulations. In addition, capital planning and monitoring are performed at the legal entity level for our significant subsidiaries and sub-groups that are subject to prudential supervision and must meet capital and other supervisory requirements.

→ **Refer to "Capital and capital ratios of our significant regulated subsidiaries" in this section for more information**

Audited | In 2019, we continued to focus on meeting the Swiss SRB capital requirements applicable as of 1 January 2020, based on the Capital Adequacy Ordinance effective until 31 December 2019. Therefore we executed a series of transactions, including:
→ the issuances of USD 2.5 billion, USD 0.5 billion, USD 0.5 billion and USD 0.3 billion equivalent of high-trigger loss-absorbing AT1 capital instruments denominated in US dollars, Australian dollars, Singapore dollars and Swiss francs, respectively;
→ the issuances of USD 1.6 billion, USD 0.4 billion and USD 0.1 billion equivalent of TLAC-eligible senior unsecured debt denominated in US dollars, Swiss francs and Australian dollars, respectively; and
→ the call of USD 0.2 billion equivalent of low-trigger loss-absorbing tier 2 capital instruments. ▲

As of 31 December 2019, these transactions had an effect on our TLAC ratio, which amounted to 34.6% of our RWA and 9.8% of our LRD compared with the respective minimum requirements of 24.3%, excluding countercyclical buffer requirements, and 8.6%, which are applicable as of 1 January 2020. These minimum requirements include the currently applicable rebates.

→ **Refer to the "Swiss SRB going and gone concern requirements – time series" table in this section for more information**

Swiss SRB total loss-absorbing capacity framework

The disclosures in this section are provided for UBS Group AG on a consolidated basis and focus on key developments during the reporting period and information in accordance with the Basel III framework, as applicable to Swiss systemically relevant banks (SRBs).

Additional regulatory disclosures for UBS Group AG on a consolidated basis are provided in our 31 December 2019 Pillar 3 report. The Pillar 3 report further includes information relating to our significant regulated subsidiaries and sub-groups (UBS AG standalone, UBS Switzerland AG standalone, UBS Europe SE consolidated and UBS Americas Holding LLC consolidated) as of 31 December 2019 and is available under "Pillar 3 disclosures" at *www.ubs.com/investors*.

Capital and other regulatory information for UBS AG consolidated in accordance with the Basel III framework, as applicable to Swiss SRBs, is provided in the combined UBS Group AG and UBS AG Annual Report 2019 available under "Annual reporting" at *www.ubs.com/investors*.

Regulatory framework

The Basel III framework came into effect in Switzerland on 1 January 2013 and is embedded in the Swiss Capital Adequacy Ordinance (the CAO). The CAO also includes the too-big-to-fail provisions applicable to Swiss SRBs, which became effective on 1 July 2016 subject to phasing in until 1 January 2020.

Under the Swiss SRB framework, going and gone concern requirements represent the total loss-absorbing capacity (TLAC) requirement of the Group. TLAC encompasses regulatory capital, such as common equity tier 1 (CET1), loss-absorbing additional tier 1 (AT1) and tier 2 capital instruments, as well as liabilities that can be written down or converted into equity in case of resolution or for the purpose of restructuring measures.

Capital and other instruments contributing to our total loss-absorbing capacity

In addition to CET1 capital, the following instruments contribute to our loss-absorbing capacity:
- loss-absorbing AT1 capital instruments (high- and low-trigger);
- loss-absorbing tier 2 capital instruments (high- and low-trigger);
- non-Basel III-compliant tier 2 capital instruments; and
- TLAC-eligible senior unsecured debt instruments.

Under the Swiss SRB rules applicable as of 1 January 2020, going concern capital includes CET1 and high-trigger loss-absorbing AT1 capital instruments. Under the transitional rules for the Swiss SRB framework, outstanding low-trigger loss-absorbing AT1 capital instruments are available to meet the going concern capital requirements until their first call date, even if the first call date is after 31 December 2019. As of their first call date, these instruments are eligible to meet the gone concern requirements.

Outstanding high- and low-trigger loss-absorbing tier 2 capital instruments are available to meet the going concern capital requirements until the earlier of (i) their maturity or first call date or (ii) 31 December 2019, and to meet gone concern requirements thereafter. Outstanding low-trigger loss-absorbing tier 2 capital instruments are subject to amortization starting five years prior to their maturity, with the amortized portion qualifying as gone concern loss-absorbing capacity.

Non-Basel III-compliant tier 2 capital instruments and TLAC-eligible senior unsecured debt instruments are eligible to meet gone concern requirements.

→ **Refer to "Bondholder information," available at *www.ubs.com/investors*, for more information about the eligibility of capital and senior unsecured debt instruments and about key features and terms and conditions of capital instruments**

→ **Refer to the "Regulatory and legal developments" section of this report for information about changes to the gone concern capital requirements**

Total loss-absorbing capacity and leverage ratio requirements

Going concern capital requirements

Following the Swiss SRB requirements being fully implemented by 1 January 2020, total going concern minimum requirements for all Swiss SRBs are a capital ratio requirement of 12.86% of RWA and a leverage ratio requirement of 4.5%. In addition to these minimum requirements, an add-on reflecting the degree of systemic importance is applied based on market share and the leverage ratio denominator (the LRD). The add-on for UBS is expected to be 1.08% of RWA and 0.375% of our LRD. Finally, the Swiss Federal Council has activated a countercyclical buffer requirement of 2% of RWA for mortgage loans on residential property in Switzerland, applicable since 30 June 2014, and we are required to apply additional countercyclical buffer requirements implemented in other Basel Committee member jurisdictions, which result in an additional buffer requirement of 0.31%. The total going concern capital requirements applicable starting as of 1 January 2020 are 14.25% of RWA (including countercyclical buffer requirements) and 4.875% of the LRD. Furthermore, of the total going concern capital requirement of 14.25% of RWA, at least 9.95% must be met with CET1 capital, while a maximum of 4.3% can be met with high-trigger loss-absorbing AT1 capital instruments. Similarly, of the total going concern leverage ratio requirement of 4.875%, 3.375% must be met with CET1 capital, while a maximum of 1.5% can be met with high-trigger loss-absorbing AT1 capital instruments.

The applicable market share add-on requirements as of 31 December 2018 were 0.72% for RWA and 0.25% for LRD purposes. These add-ons were reduced to 0.36% of RWA and 0.125% of LRD from November 2019, reflecting a reduction in UBS's market share in the Swiss credit business to less than 17%. The applicable LRD add-on requirements remained unchanged at 0.72% for RWA and 0.25% for LRD purposes, as our Group LRD remained within the same range.

Gone concern loss-absorbing capacity requirements

As an internationally active Swiss SRB, UBS is also subject to gone concern loss-absorbing capacity requirements. The gone concern requirements also include add-ons for market share and the LRD, and may be met with senior unsecured debt that is TLAC eligible.

Under the Swiss SRB framework, banks are eligible for a rebate on the gone concern requirement if they take actions that facilitate recovery and resolvability beyond the minimum requirements to ensure the integrity of systemically important functions in the case of an impending insolvency. In addition, in the event that CET1 capital, low-trigger loss-absorbing AT1 or certain low-trigger tier 2 capital instruments are used to meet the gone concern requirements, such requirements may be reduced by up to 2.86 percentage points for the RWA-based requirement and up to 1 percentage point for the LRD-based requirement. The combined reduction applied for resolvability measures and the aforementioned gone concern requirement reduction for the use of low-trigger loss-absorbing AT1 and low-trigger tier 2 capital instruments may not exceed 5.34 percentage points for the RWA-based requirement of 13.94% and 1.875 percentage points for the LRD-based requirement of 4.875%. The amount of the rebate for improved resolvability is assessed annually by FINMA, and was phased in until 1 January 2020. Based on actions we completed up to December 2018 to improve resolvability, FINMA granted a rebate on the gone concern requirement of 42.5% of the aforementioned maximum rebate in the third quarter of 2019, which resulted in a reduction of 2.27 percentage points for the RWA-based requirement and 0.80 percentage points for the LRD-based requirement. UBS also qualifies for an additional rebate for the use of low-trigger tier 2 capital instruments to fulfill gone concern requirements, allowing a further reduction of 1.33 percentage points for the RWA-based requirement and 0.38 percentage points for the LRD-based requirements.

In this report, we refer to the RWA-based gone concern requirements as gone concern loss-absorbing capacity requirements, and the RWA-based gone concern ratio is referred to as the gone concern loss-absorbing capacity ratio.

Swiss SRB going and gone concern requirements – time series

	Risk-weighted assets (%)		Leverage ratio (%)	
	Requirements		Requirements	
	31.12.19	1.1.20	31.12.19	1.1.20
Going concern				
Minimum capital	8.00	8.00	3.00	3.00
Buffer capital[1]	5.71	6.25	1.50	1.88
Total going concern	13.71	14.25	4.50	4.88
of which: common equity tier 1 capital[1]	*9.81*	*9.95*	*3.20*	*3.38*
of which: maximum additional tier 1 capital	*3.90*	*4.30*	*1.30*	*1.50*
Gone concern				
Base requirement including applicable add-ons and reductions	11.33	13.94	3.91	4.88
of which: rebate granted (equivalent to 42.5% of maximum rebate)	*(1.82)*	*(2.27)*	*(0.64)*	*(0.80)*
of which: reduction for usage of low-trigger tier 2 capital instruments		*(1.33)*		*(0.38)*
Total gone concern	9.51	10.34	3.27	3.70
Total loss-absorbing capacity	23.23	24.59	7.77	8.58

1 Going concern buffer capital requirements as of 31 December 2019 include applicable add-ons based on market share and LRD as well as a countercyclical buffer requirement of 0.31%.

Swiss SRB going and gone concern requirements and information

	Swiss SRB, including transitional arrangements				Swiss SRB as of 1.1.20			
As of 31.12.19	RWA		LRD		RWA		LRD	
USD million, except where indicated	in %		in %		in %		in %	
Required going concern capital								
Total going concern capital	13.71	35,543	4.50	41,010	14.25[1]	36,943	4.88[1]	44,427
Common equity tier 1 capital	9.81	25,434	3.20	29,162	9.95	25,797	3.38	30,757
of which: minimum capital	*4.90*	*12,701*	*1.70*	*15,493*	*4.50*	*11,664*	*1.50*	*13,670*
of which: buffer capital	*4.60*	*11,924*	*1.50*	*13,670*	*5.14*	*13,323*	*1.88*	*17,087*
of which: countercyclical buffer	*0.31*	*810*			*0.31*	*810*		
Maximum additional tier 1 capital	3.90	10,109	1.30	11,847	4.30	11,146	1.50	13,670
of which: additional tier 1 capital	*3.10*	*8,035*	*1.30*	*11,847*	*3.50*	*9,072*	*1.50*	*13,670*
of which: additional tier 1 buffer capital	*0.80*	*2,074*			*0.80*	*2,074*		
Eligible going concern capital								
Total going concern capital	22.01	57,056	6.26	57,056	20.02	51,888	5.69	51,888
Common equity tier 1 capital	13.73	35,582	3.90	35,582	13.73	35,582	3.90	35,582
Total loss-absorbing additional tier 1 capital[2]	8.28	21,474	2.36	21,474	6.29	16,306	1.79	16,306
of which: high-trigger loss-absorbing additional tier 1 capital	*5.36*	*13,892*	*1.52*	*13,892*	*5.36*	*13,892*	*1.52*	*13,892*
of which: low-trigger loss-absorbing additional tier 1 capital	*0.93*	*2,414*	*0.26*	*2,414*	*0.93*	*2,414*	*0.26*	*2,414*
of which: low-trigger loss-absorbing tier 2 capital	*1.99*	*5,168*	*0.57*	*5,168*				
Required gone concern capital								
Total gone concern loss-absorbing capacity	9.51	24,662	3.27	29,789	10.34	26,805	3.70	33,719
of which: base requirement	*10.52*	*27,269*	*3.63*	*33,036*	*12.86*	*33,334*	*4.50*	*41,010*
of which: additional requirement for market share and LRD[3]	*0.81*	*2,100*	*0.28*	*2,563*	*1.08*	*2,799*	*0.38*	*3,417*
of which: applicable reduction on requirements	*(1.82)*	*(4,706)*	*(0.64)*	*(5,810)*	*(3.60)*	*(9,329)*	*(1.17)*	*(10,708)*
of which: rebate granted (equivalent to 42.5% of maximum rebate)	*(1.82)*	*(4,706)*	*(0.64)*	*(5,810)*	*(2.27)*	*(5,883)*	*(0.80)*	*(7,262)*
of which: reduction for usage of low-trigger tier 2 capital instruments					*(1.33)*	*(3,446)*	*(0.38)*	*(3,446)*
Eligible gone concern capital								
Total gone concern loss-absorbing capacity	12.57	32,585	3.58	32,585	14.56	37,753	4.14	37,753
Total tier 2 capital	0.87	2,263	0.25	2,263	2.87	7,431	0.82	7,431
of which: low-trigger loss-absorbing tier 2 capital	*0.67*	*1,724*	*0.19*	*1,724*	*2.66*	*6,892*	*0.76*	*6,892*
of which: non-Basel III-compliant tier 2 capital	*0.21*	*540*	*0.06*	*540*	*0.21*	*540*	*0.06*	*540*
TLAC-eligible senior unsecured debt	11.70	30,322	3.33	30,322	11.70	30,322	3.33	30,322
Total loss-absorbing capacity								
Required total loss-absorbing capacity	23.23	60,205	7.77	70,799	24.59	63,748	8.58	78,146
Eligible total loss-absorbing capacity	34.58	89,641	9.84	89,641	34.58	89,641	9.84	89,641

1 Includes applicable add-ons of 1.08% for RWA and 0.375% for LRD. 2 Includes outstanding low-trigger loss-absorbing additional tier 1 and tier 2 capital instruments, which are available under the transitional rules of the Swiss SRB framework to meet the going concern requirements until their first call date, even if the first call date is after 31 December 2019, limited to 31 December 2019 for tier 2 instruments. Thereafter, these instruments are eligible to meet the gone concern requirements. Outstanding low-trigger loss-absorbing tier 2 capital instruments are subject to amortization starting five years prior to their maturity, with the amortized portion qualifying as gone concern loss-absorbing capacity. Instruments available to meet gone concern requirements are eligible until one year before maturity, with a haircut of 50% applied in the last year of eligibility, as reflected in this table. Under the revised Capital Adequacy Ordinance issued in November 2019, effective 1 January 2020, the 50% haircut is no longer applied; refer to the "Regulatory and legal developments" section of this report for more information. 3 A lower add-on requirement for market share was applied in the fourth quarter of 2019, of which 0.27% was applied for RWA and 0.09% for LRD under the transitional rules, 0.36% was applied for RWA and 0.125% for LRD under the final rules as of 1 January 2020.

Total loss-absorbing capacity

Swiss SRB going and gone concern information

	Swiss SRB, including transitional arrangements		Swiss SRB as of 1.1.20	
USD million, except where indicated	31.12.19	31.12.18	31.12.19	31.12.18
Eligible going concern capital				
Total going concern capital	57,056	52,287	51,888	46,279
Total tier 1 capital	51,888	46,279	51,888	46,279
Common equity tier 1 capital	35,582	34,119	35,582	34,119
Total loss-absorbing additional tier 1 capital	16,306	12,160	16,306	12,160
of which: high-trigger loss-absorbing additional tier 1 capital	*13,892*	*9,790*	*13,892*	*9,790*
of which: low-trigger loss-absorbing additional tier 1 capital	*2,414*	*2,369*	*2,414*	*2,369*
Total tier 2 capital	5,168	6,008		
of which: low-trigger loss-absorbing tier 2 capital[1]	*5,168*	*6,008*		
Eligible gone concern capital[2]				
Total gone concern loss-absorbing capacity	32,585	31,452	37,753	37,460
Total tier 2 capital	2,263	1,464	7,431	7,471
of which: low-trigger loss-absorbing tier 2 capital[1]	*1,724*	*771*	*6,892*	*6,779*
of which: non-Basel III-compliant tier 2 capital[3]	*540*	*693*	*540*	*693*
TLAC-eligible senior unsecured debt	30,322	29,988	30,322	29,988
Total loss-absorbing capacity				
Total loss-absorbing capacity	89,641	83,738	89,641	83,738
Risk-weighted assets / leverage ratio denominator				
Risk-weighted assets	259,208	263,747	259,208	263,747
Leverage ratio denominator	911,325	904,598	911,325	904,598
Capital and loss-absorbing capacity ratios (%)				
Going concern capital ratio	22.0	19.8	20.0	17.5
of which: common equity tier 1 capital ratio	*13.7*	*12.9*	*13.7*	*12.9*
Gone concern loss-absorbing capacity ratio	12.6	11.9	14.6	14.2
Total loss-absorbing capacity ratio	34.6	31.7	34.6	31.7
Leverage ratios (%)				
Going concern leverage ratio	6.3	5.8	5.7	5.1
of which: common equity tier 1 leverage ratio	*3.90*	*3.77*	*3.90*	*3.77*
Gone concern leverage ratio	3.6	3.5	4.1	4.1
Total loss-absorbing capacity leverage ratio	9.8	9.3	9.8	9.3

1 Under the transitional rules of the Swiss SRB framework, outstanding low-trigger loss-absorbing tier 2 capital instruments are subject to amortization starting five years prior to their maturity, with the amortized portion qualifying as gone concern loss-absorbing capacity. 2 Instruments available to meet gone concern requirements are eligible until one year before maturity, with a haircut of 50% applied in the last year of eligibility, as reflected in this table. Under the revised Capital Adequacy Ordinance issued in November 2019, effective 1 January 2020, the 50% haircut is no longer applied; refer to the "Regulatory and legal developments" section of this report for more information. 3 Non-Basel III-compliant tier 2 capital instruments qualify as gone concern instruments.

Audited |

Reconciliation of IFRS equity to Swiss SRB common equity tier 1 capital

USD million	31.12.19	31.12.18
Total IFRS equity	54,707	53,103
Equity attributable to non-controlling interests	(174)	(176)
Defined benefit plans, net of tax	(9)	0
Deferred tax assets recognized for tax loss carry-forwards	(6,121)	(6,107)
Deferred tax assets on temporary differences, excess over threshold	(221)	(586)
Goodwill, net of tax[1]	(6,178)	(6,514)
Intangible assets, net of tax	(195)	(251)
Compensation-related components (not recognized in net profit)	(1,717)	(1,652)
Expected losses on advanced internal ratings-based portfolio less provisions	(495)	(368)
Unrealized (gains) / losses from cash flow hedges, net of tax	(1,260)	(109)
Own credit related to (gains) / losses on financial liabilities measured at fair value that existed at the balance sheet date, net of tax	48	(397)
Prudential valuation adjustments	(104)	(120)
Accruals for proposed dividends to shareholders	(2,628)	(2,648)
Other	(72)	(56)
Total common equity tier 1 capital	35,582	34,119

1 Includes goodwill related to significant investments in financial institutions of USD 178 million as of 31 December 2019 (31 December 2018: USD 176 million) presented on the balance sheet line Investments in associates.

▲

Total loss-absorbing capacity and movement under Swiss SRB rules applicable as of 1 January 2020

Going concern capital and movement

Audited | Our CET1 capital mainly consists of: share capital; share premium, which primarily consists of additional paid-in capital related to shares issued; and retained earnings. A detailed reconciliation of IFRS equity to CET1 capital is provided in the "Reconciliation of IFRS equity to Swiss SRB common equity tier 1 capital" table.

Our CET1 capital increased by USD 1.5 billion to USD 35.6 billion as of 31 December 2019, mainly as a result of operating profit before tax and foreign currency translation effects, partly offset by accruals for capital returns to shareholders, our share repurchase program, current tax expenses, changes in compensation-related regulatory capital accruals and defined benefit plans.

→ **Refer to "UBS shares" in this section for more information about the share repurchase program**

Our loss-absorbing additional tier 1 (AT1) capital increased by USD 4.1 billion to USD 16.3 billion as of 31 December 2019, primarily due to four issuances of USD 3.8 billion equivalent of AT1 capital instruments denominated in US dollars, Australian dollars, Singapore dollars and Swiss francs, as well as currency effects. ▲

Gone concern loss-absorbing capacity and movement

Audited | Our total gone concern loss-absorbing capacity included USD 30.3 billion of TLAC-eligible senior unsecured debt, and increased by USD 0.3 billion to USD 37.8 billion as of 31 December 2019.▲ The increase was due to a USD 2.1 billion issuance of TLAC-eligible senior unsecured debt and hedge effects of USD 0.8 billion, partly offset by a USD 2.3 billion decrease in the eligibility of two TLAC-eligible senior unsecured bonds due to the shortening of the residual tenor and the call of a low-trigger tier 2 capital instrument, as well as currency effects of USD 0.2 billion.

Loss-absorbing capacity and leverage ratios

Our CET1 capital ratio increased 0.8 percentage points to 13.7%, reflecting the USD 1.5 billion increase in CET1 capital and a USD 4.5 billion decrease in risk-weighted assets (RWA).

Our CET1 leverage ratio increased from 3.77% to 3.90% as of 31 December 2019, reflecting the aforementioned increase in CET1 capital, partly offset by a USD 7 billion increase in LRD.

Our gone concern loss-absorbing capacity ratio increased 0.4 percentage points to 14.6%, mainly driven by the aforementioned decrease in RWA. Our gone concern leverage ratio remained stable at 4.1%.

Swiss SRB total loss-absorbing capacity movement

USD million	Swiss SRB, including transitional arrangements	Swiss SRB as of 1.1.20
Going concern capital		
Common equity tier 1 capital as of 31.12.18	34,119	34,119
Operating profit before tax	5,577	5,577
Current tax (expense) / benefit	(791)	(791)
Foreign currency translation effects	105	105
Compensation- and own shares-related capital components (including share premium)	(216)	(216)
Defined benefit plans	(195)	(195)
Share repurchase program[1]	(806)	(806)
Accruals for proposed dividends to shareholders	(2,628)	(2,628)
Other	416	416
Common equity tier 1 capital as of 31.12.19	35,582	35,582
Loss-absorbing additional tier 1 capital as of 31.12.18	12,160	12,160
Issuance of high-trigger loss-absorbing additional tier 1 capital	3,815	3,815
Foreign currency translation and other effects	331	331
Loss-absorbing additional tier 1 capital as of 31.12.19	16,306	16,306
Tier 2 capital as of 31.12.18	6,008	
Amortization due to shortening of residual tenor	(953)	
Foreign currency translation and other effects	113	
Tier 2 capital as of 31.12.19	5,168	
Total going concern capital as of 31.12.18	52,287	46,279
Total going concern capital as of 31.12.19	57,056	51,888
Gone concern loss-absorbing capacity		
Tier 2 capital as of 31.12.18	1,464	7,471
Amortized portion, which qualifies as gone concern loss-absorbing capacity	953	
Call of a low-trigger loss-absorbing tier 2 capital instrument	(160)	(160)
Foreign currency translation and other effects	7	120
Tier 2 capital as of 31.12.19	2,263	7,431
TLAC-eligible senior unsecured debt as of 31.12.18	29,988	29,988
Issuance of TLAC-eligible senior unsecured debt instruments	2,078	2,078
Decrease in eligibility due to shortening of residual tenor	(2,330)	(2,330)
Foreign currency translation and other effects	585	585
TLAC-eligible senior unsecured debt as of 31.12.19	30,322	30,322
Total gone concern loss-absorbing capacity as of 31.12.18	31,452	37,460
Total gone concern loss-absorbing capacity as of 31.12.19	32,585	37,753
Total loss-absorbing capacity		
Total loss-absorbing capacity as of 31.12.18	83,738	83,738
Total loss-absorbing capacity as of 31.12.19	89,641	89,641

1 Refer to "UBS shares" in this section for more information about the publicly announced share repurchase program.

Additional information

Active management of sensitivity to currency movements

Group Treasury is mandated to minimize adverse effects from changes in currency rates on our CET1 capital and CET1 capital ratio. A significant portion of our capital and RWA are denominated in Swiss francs, euros, pounds sterling and other currencies. In order to hedge the CET1 capital ratio, CET1 capital needs to have foreign currency exposure, leading to currency sensitivity of CET1 capital. As a consequence, it is not possible to simultaneously fully hedge the capital and the capital ratio. As the proportion of RWA denominated in non-USD currencies outweighs the capital in these currencies, a significant appreciation of the US dollar against these currencies could benefit our capital ratios, while a significant depreciation of the US dollar against these currencies could adversely affect our capital ratios. The Group Asset and Liability Committee (the ALCO), a committee of the Group Executive Board, can adjust the currency mix in capital, within limits set by the Board of Directors, to balance the effect of foreign exchange movements on the CET1 capital and capital ratio. Limits are in place for the sensitivity of both CET1 capital and the capital ratio to an appreciation or depreciation of 10% in the value of the US dollar against other currencies.

Sensitivity to currency movements

Risk-weighted assets

We estimate that a 10% depreciation of the US dollar against other currencies would have increased our RWA by USD 11 billion and our CET1 capital by USD 1.1 billion as of 31 December 2019 (31 December 2018: USD 11 billion and USD 1.2 billion, respectively) and decreased our CET1 capital ratio 14 basis points (31 December 2018: 9 basis points). Conversely, we estimate that a 10% appreciation of the US dollar against other currencies would have decreased our RWA by USD 10 billion and our CET1 capital by USD 1.0 billion (31 December 2018: USD 10 billion and USD 1.1 billion, respectively) and increased our CET1 capital ratio 14 basis points (31 December 2018: 9 basis points).

Leverage ratio denominator

Our leverage ratio is also sensitive to foreign exchange movements as a result of the currency mix of our capital and LRD. When adjusting the currency mix in capital, potential effects on the going concern leverage ratio are taken into account and the sensitivity of the going concern leverage ratio to an appreciation or depreciation of 10% in the value of the US dollar against other currencies is actively monitored.

We estimate that a 10% depreciation of the US dollar against other currencies would have increased our LRD by USD 57 billion (31 December 2018: USD 57 billion) and decreased our Swiss SRB going concern leverage ratio 18 basis points (31 December 2018: 15 basis points). Conversely, we estimate that a 10% appreciation of the US dollar against other currencies would have decreased our LRD by USD 51 billion (31 December 2018: USD 51 billion) and increased our Swiss SRB going concern leverage ratio 18 basis points (31 December 2018: 16 basis points).

The aforementioned sensitivities do not consider foreign currency translation effects related to defined benefit plans other than those related to the currency translation of the net equity of foreign operations.

Estimated effect on capital from litigation, regulatory and similar matters subject to provisions and contingent liabilities

We have estimated the loss in capital that we could incur as a result of the risks associated with the matters described in "Note 21 Provisions and contingent liabilities" in the "Consolidated financial statements" section of this report. We have employed for this purpose the advanced measurement approach (AMA) methodology that we use when determining the capital requirements associated with operational risks, based on a 99.9% confidence level over a 12-month horizon. The methodology takes into consideration UBS and industry experience for the AMA operational risk categories to which those matters correspond, as well as the external environment affecting risks of these types, in isolation from other areas. On this standalone basis, we estimate the loss in capital that we could incur over a 12-month period as a result of our risks associated with these operational risk categories at USD 4.3 billion as of 31 December 2019, a reduction of USD 0.2 billion from 31 December 2018. This estimate is not related to and does not take into account any provisions recognized for any of these matters and does not constitute a subjective assessment of our actual exposure in any of these matters.

→ **Refer to "Operational risk" in the "Risk management and control" section of this report for more information**

→ **Refer to "Note 21 Provisions and contingent liabilities" in the "Consolidated financial statements" section of this report for more information**

Capital and capital ratios of our significant regulated subsidiaries

UBS Group AG is a holding company and conducts substantially all operations through UBS AG and subsidiaries thereof. UBS Group AG and UBS AG have contributed a significant portion of their respective capital and provide substantial liquidity to subsidiaries. Many of these subsidiaries are subject to regulations requiring compliance with minimum capital, liquidity and similar requirements. Regulatory capital components and capital ratios of our significant regulated subsidiaries determined under the regulatory framework of each subsidiary's home jurisdiction are provided in the "Financial and regulatory key figures for our significant regulated subsidiaries and sub-groups" section of this report. Supervisory authorities generally have discretion to impose higher requirements or to otherwise limit the activities of subsidiaries. Supervisory authorities also may require entities to measure capital and leverage ratios on a stressed basis and may limit the ability of the entity to engage in new activities or take capital actions based on the results of those tests.

→ **Refer to the 31 December 2019 Pillar 3 report, available under "Pillar 3 disclosures" at *www.ubs.com/investors*, for more capital and other regulatory information about our significant regulated subsidiaries and sub-groups**

Joint liability of UBS AG and UBS Switzerland AG

In June 2015, upon the transfer of the Personal & Corporate Banking and Global Wealth Management businesses booked in Switzerland from UBS AG to UBS Switzerland AG, UBS AG and UBS Switzerland AG assumed joint liability for obligations transferred to UBS Switzerland AG and existing at UBS AG, respectively. Under certain circumstances, the Swiss Banking Act and FINMA's Banking Insolvency Ordinance authorize FINMA to modify, extinguish or convert to common equity liabilities of a bank in connection with a resolution or insolvency of such bank.

The joint liability amounts have declined as obligations matured, terminated or were novated following the transfer date. As of 31 December 2019, the liability of UBS Switzerland AG amounted to CHF 16.8 billion (the US dollar equivalent of 17.4 billion). We expect further reductions in 2020 in addition to the contractual redemptions due to an ongoing actively managed reduction program. The respective liability of UBS AG has been substantially extinguished.

Risk-weighted assets

RWA development in 2019

As of 31 December 2019, RWA decreased by USD 4.5 billion to USD 259.2 billion, mainly driven by a USD 13.4 billion decrease in market risk, partly offset by a USD 5.1 billion increase in credit and counterparty credit risk and a USD 3.8 billion increase in non-counterparty-related risk.

The total RWA decrease was primarily driven by an USD 8.0 billion decrease from asset size and other movements and a USD 0.7 billion decrease in regulatory add-ons primarily related to market risk. This decrease was partly offset by increases from methodology and policy changes of USD 2.0 billion, model updates of USD 1.2 billion and currency effects of USD 0.9 billion.

→ **Refer to the 31 December 2019 Pillar 3 report, available under "Pillar 3 disclosures" at *www.ubs.com/investors*, for more information about RWA movements and definitions of RWA movement key drivers**

Movement in risk-weighted assets by key driver

USD billion	RWA as of 31.12.18	Currency effects	Methodology and policy changes	Model updates / changes	Regulatory add-ons	Asset size and Other[1]	RWA as of 31.12.19
Credit and counterparty credit risk[2]	147.9	0.8	(1.5)	2.8	0.6	2.4	153.0
Non-counterparty-related risk	18.3	0.1	3.5	0.0	0.0	0.2	22.1
Market risk	20.0	0.0	0.0	(1.6)	(1.3)	(10.6)	6.6
Operational risk	77.6	0.0	0.0	0.0	0.0	0.0	77.5
Total	263.7	0.9	2.0	1.2	(0.7)	(8.0)	259.2

1 Includes the Pillar 3 categories "Asset size," "Credit quality of counterparties," "Acquisitions and disposals" and "Other." Refer to the 31 December 2019 Pillar 3 report under "Pillar 3 disclosures" at www.ubs.com/investors for more information. 2 Includes settlement risk, credit valuation adjustments, equity exposures in the banking book and securitization exposures in the banking book.

Credit and counterparty credit risk

Credit and counterparty credit risk RWA increased by USD 5.1 billion to USD 153.0 billion as of 31 December 2019. This increase was primarily driven by increases from model updates of USD 2.8 billion, asset size and other movements of USD 2.4 billion, currency effects of USD 0.8 billion and regulatory add-ons of USD 0.6 billion, partly offset by decreases from methodology and policy changes of USD 1.5 billion.

Movement in credit and counterparty credit risk RWA by key driver[1]

USD billion	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Corporate Center	Group
Total credit and counterparty credit risk RWA as of 31.12.18	32.5	54.7	1.8	51.3	7.7	147.9
Asset size	0.6	2.0	0.0	1.5	0.1	4.2
Asset quality	0.7	(1.1)	0.0	(0.5)	(0.3)	(1.2)
Model updates	1.1	1.6	0.0	0.1	0.0	2.8
Methodology and policy changes	0.0	0.0	0.0	(1.8)	0.3	(1.5)
Regulatory add-ons	0.0	0.0	0.0	0.1	0.5	0.6
Acquisitions and disposals	0.0	0.0	0.0	0.0	(0.1)	(0.1)
Foreign exchange movements	0.2	0.6	0.0	0.0	0.1	0.8
Other	0.0	(0.4)	0.0	(0.1)	0.0	(0.5)
Total movement	2.5	2.7	0.1	(0.7)	0.6	5.1
Total credit and counterparty credit risk RWA as of 31.12.19	35.0	57.3	1.8	50.6	8.3	153.0

1 Refer to the 31 December 2019 Pillar 3 report under "Pillar 3 disclosures" at www.ubs.com/investors for the definitions of credit and counterparty credit risk RWA movement categories.

Model updates
The increase in credit and counterparty credit risk RWA from model updates of USD 2.8 billion was driven by the continued phasing-in of RWA increases related to probability of default (PD) and loss given default (LGD) changes from the implementation of revised models for Swiss residential mortgages, which resulted in an RWA increase of USD 1.6 billion in Personal & Corporate Banking and of USD 0.4 billion in Global Wealth Management. In addition, changes of the credit conversion factor for zero-balance securities-backed lending and margin loans exposures increased RWA in Global Wealth Management by USD 0.8 billion.

In the first quarter of 2020, we expect further regulatory-driven increases in credit risk RWA of around USD 2.0 billion to USD 3.0 billion, predominantly relating to the implementation of the standardized approach for counterparty credit risk (SA-CCR).

→ **Refer to "Credit risk models" in the "Risk management and control" section of this report for more information about model updates**

Regulatory add-ons
A regulatory add-on of USD 0.6 billion was agreed with FINMA for certain portfolios awaiting the development of a formalized rating tool, resulting in an RWA increase of USD 0.5 billion in Corporate Center, and USD 0.1 billion in the Investment Bank.

Methodology changes
The decrease from methodology and policy changes of USD 1.5 billion was predominantly driven by the exclusion of certain collar financing transactions from credit risk RWA in the Investment Bank, due to their non-credit bearing nature.

→ **Refer to the "Risk management and control" section of this report and the 31 December 2019 Pillar 3 report, available under "Pillar 3 disclosures" at *www.ubs.com/investors*, for more information about credit and counterparty credit risk developments**

Non-counterparty credit risk
Non-counterparty credit risk RWA increased by USD 3.8 billion to USD 22.1 billion as of 31 December 2019, primarily driven by an increase of USD 3.5 billion from the adoption of IFRS 16, *Leases*.

Market risk
Market risk RWA decreased by USD 13.4 billion to USD 6.6 billion as of 31 December 2019, mainly driven by a USD 10.6 billion decrease in asset size and other movements, a reduction of USD 1.6 billion related to the ongoing parameter update of the VaR model and USD 1.3 billion lower regulatory add-ons reflecting updates from the monthly risks-not-in-VaR (RniV) assessment.

A USD 10.6 billion decrease in other movements was primarily driven by lower average VaR and stressed VaR levels observed in the Investment Bank's Equities business, resulting from decreased market volatility and continued management of tail risks.

→ **Refer to the "Risk management and control" section of this report and the 31 December 2019 Pillar 3 report, available under "Pillar 3 disclosures" at *www.ubs.com/investors* for more information about market risk developments**

Operational risk
Operational risk RWA remained largely unchanged at USD 77.5 billion as of 31 December 2019. An increase in the first quarter of 2019 driven by an update to model inputs related to the verdict in the French cross-border matter, was completely offset by the effect of the annual recalibration of the advanced measurement approach (AMA) model used for the calculation of operational risk capital in the fourth quarter of 2019.

→ **Refer to "Advanced measurement approach model" in the "Risk management and control" section of this report for more information about the AMA model**

Risk-weighted assets by business division and Corporate Center

USD billion	Global Wealth Management	Personal & Corporate Banking	Asset Manage-ment	Investment Bank	Corporate Center	Total RWA
			31.12.19			
Credit and counterparty credit risk[1]	35.0	57.3	1.8	50.6	8.3	153.0
Non-counterparty-related risk[2]	6.4	2.1	0.8	3.4	9.5	22.1
Market risk	0.8	0.0	0.0	4.6	1.1	6.6
Operational risk	35.9	7.7	2.0	22.5	9.4	77.5
Total	78.1	67.1	4.6	81.1	28.3	259.2
			31.12.18			
Credit and counterparty credit risk[1]	32.5	54.7	1.8	51.3	7.7	147.9
Non-counterparty-related risk[2]	4.5	1.5	0.6	2.5	9.2	18.3
Market risk	1.3	0.0	0.0	16.8	1.9	20.0
Operational risk	36.0	7.7	2.0	22.5	9.4	77.6
Total	74.3	63.9	4.3	93.2	28.1	263.7
			31.12.19 vs 31.12.18			
Credit and counterparty credit risk[1]	2.5	2.7	0.1	(0.7)	0.6	5.1
Non-counterparty-related risk[2]	1.8	0.6	0.2	0.8	0.3	3.8
Market risk	(0.5)	0.0	0.0	(12.2)	(0.7)	(13.4)
Operational risk	0.0	0.0	0.0	0.0	0.0	0.0
Total	3.9	3.3	0.2	(12.1)	0.2	(4.5)

1 Includes settlement risk, credit valuation adjustments, equity exposures in the banking book and securitization exposures in the banking book. 2 Non-counterparty-related risk includes deferred tax assets recognized for temporary differences (31 December 2019: USD 9.0 billion; 31 December 2018: USD 8.8 billion), property, equipment and software (31 December 2019: USD 12.8 billion; 31 December 2018: USD 9.3 billion) and other items (31 December 2019: USD 0.4 billion; 31 December 2018: USD 0.2 billion).

Leverage ratio denominator

The leverage ratio denominator (LRD) increased by USD 7 billion to USD 911 billion as of 31 December 2019, primarily driven by increases from currency effects of USD 5 billion and policy changes of USD 4 billion, partly offset by a decrease of USD 2 billion from asset size and other movements.

Movement in leverage ratio denominator by key driver

USD billion	LRD as of 31.12.18	Currency effects	Policy changes	Asset size and other	LRD as of 31.12.19
On-balance sheet exposures (excluding derivative exposures and SFTs)[1]	663.1	4.4	3.5	19.3	690.3
Derivative exposures	95.4	0.1		(6.5)	89.0
Securities financing transactions	130.9	0.3		(13.8)	117.5
Off-balance sheet items	29.0	0.1		(1.2)	27.9
Deduction items	(13.8)	0.0		0.6	(13.3)
Total	904.6	4.8	3.5	(1.6)	911.3

1 Excludes positive replacement values, cash collateral receivables on derivative instruments, cash collateral on securities borrowed, reverse repurchase agreements, margin loans and prime brokerage receivables related to securities financing transactions, which are presented separately under Derivative exposures and Securities financing transactions in this table.

The LRD movements described below exclude currency effects.

On-balance sheet exposures (excluding derivative exposures and securities financing transactions (SFTs)) increased by USD 23 billion, primarily driven by higher trading portfolio assets in the Investment Bank's Equities business as a result of market-driven movements and increased hedging activities against client positions and notes sold, as well as an increase of USD 3.5 billion from the adoption of IFRS 16, *Leases*.

Derivative exposures decreased by USD 7 billion, reflecting lower client activity levels in Global Wealth Management and the Investment Bank's Equities business, as well as a reduction in the derivatives portfolio in Corporate Center.

SFTs decreased by USD 14 billion as a result of increased funding consumption by the business divisions, lower collateral sourcing requirements, and client-driven decreases in other financial assets at fair value not held for trading.

→ **Refer to "Balance sheet, liquidity and funding management" in the "Treasury management" section of this report for more information about balance sheet movements**

Leverage ratio denominator by business division and Corporate Center

USD billion	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Corporate Center	Total
			31.12.19			
Total IFRS assets	309.8	209.4	34.6	315.9	102.6	972.2
Difference in scope of consolidation[1]	(0.1)	0.0	(28.2)	0.0	0.1	(28.3)
Less: derivative exposures and SFTs[2]	(34.9)	(20.6)	(0.9)	(141.9)	(55.3)	(253.6)
On-balance sheet exposures	274.7	188.8	5.5	173.9	47.4	690.3
Derivative exposures	6.4	1.4	0.0	73.2	8.0	89.0
Securities financing transactions	32.1	19.6	0.9	38.9	26.0	117.5
Off-balance sheet items	4.7	14.8	0.0	7.3	1.0	27.9
Items deducted from Swiss SRB tier 1 capital	(5.2)	(0.4)	(1.4)	(0.2)	(6.2)	(13.3)
Total	312.7	224.2	5.0	293.2	76.2	911.3
			31.12.18			
Total IFRS assets	313.7	200.7	28.1	302.1	113.7	958.4
Difference in scope of consolidation[1]	(0.2)	0.0	(21.7)	(0.4)	0.0	(22.3)
Less: derivative exposures and SFTs[2]	(41.6)	(18.9)	(1.0)	(148.1)	(63.4)	(273.0)
On-balance sheet exposures	272.0	181.8	5.4	153.6	50.3	663.1
Derivative exposures	8.6	1.2	0.0	75.2	10.3	95.4
Securities financing transactions	35.5	18.1	1.0	44.3	32.0	130.9
Off-balance sheet items	5.0	13.0	0.0	10.6	0.5	29.0
Items deducted from Swiss SRB tier 1 capital	(5.3)	(0.3)	(1.4)	(0.2)	(6.7)	(13.8)
Total	315.8	213.7	5.0	283.4	86.5	904.6
			31.12.19 vs 31.12.18			
Total IFRS assets	(4.0)	8.7	6.4	13.7	(11.1)	13.8
Difference in scope of consolidation[1]	0.0	0.0	(6.5)	0.4	0.0	(6.0)
Less: derivative exposures and SFTs[2]	6.6	(1.6)	0.1	6.2	8.0	19.4
On-balance sheet exposures	2.7	7.1	0.0	20.4	(3.0)	27.2
Derivative exposures	(2.2)	0.2	0.0	(2.0)	(2.4)	(6.4)
Securities financing transactions	(3.4)	1.4	(0.1)	(5.4)	(6.0)	(13.5)
Off-balance sheet items	(0.3)	1.9	0.0	(3.2)	0.5	(1.1)
Items deducted from Swiss SRB tier 1 capital	0.1	(0.1)	0.0	0.1	0.5	0.5
Total	(3.2)	10.5	(0.1)	9.7	(10.3)	6.7

1 Represents the difference between the IFRS and the regulatory scope of consolidation, which is the applicable scope for the LRD calculation. 2 Consists of derivative financial instruments, cash collateral receivables on derivative instruments, receivables from securities financing transactions, and margin loans as well as prime brokerage receivables and financial assets at fair value not held for trading, both related to securities financing transactions, in accordance with the regulatory scope of consolidation, which are presented separately under Derivative exposures and Securities financing transactions.

UBS AG consolidated total loss-absorbing capacity and leverage ratio information

Going and gone concern requirements and information

UBS is considered a systemically relevant bank (SRB) under Swiss banking law and, on a consolidated basis, both UBS Group AG and UBS AG are required to comply with regulations based on the Basel III framework as applicable for Swiss SRBs.

The Swiss SRB framework and requirements applicable to UBS AG consolidated are consistent with those applicable to UBS Group AG consolidated and are described in the "Capital management" section of this report.

→ **Refer to "Regulatory framework" in this section for more information about total loss-absorbing capacity, leverage ratio requirements and gone concern rebate**

UBS AG is subject to going concern requirements on a standalone basis. Capital and other regulatory information for UBS AG standalone is provided under "Holding company and significant regulated subsidiaries and sub-groups" at *www.ubs.com/investors* and in the 31 December 2019 Pillar 3 report available under "Pillar 3 disclosures" at *www.ubs.com/investors*.

The table below provides the risk-weighted assets (RWA)- and leverage ratio denominator (LRD)-based requirements and information as of 31 December 2019 for UBS AG consolidated.

Swiss SRB going and gone concern requirements and information

	Swiss SRB, including transitional arrangements				Swiss SRB as of 1.1.20			
As of 31.12.19	RWA		LRD		RWA		LRD	
USD million, except where indicated	in %		in %		in %		in %	
Required going concern capital								
Total going concern capital	13.71[1]	35,353	4.50	41,005	14.25[2]	36,745	4.88[2]	44,423
Common equity tier 1 capital	9.81	25,297	3.20	29,159	9.95	25,658	3.38	30,754
of which: minimum capital	*4.90*	*12,634*	*1.70*	*15,491*	*4.50*	*11,602*	*1.50*	*13,668*
of which: buffer capital	*4.60*	*11,860*	*1.50*	*13,668*	*5.14*	*13,253*	*1.88*	*17,086*
of which: countercyclical buffer	*0.31*	*803*			*0.31*	*803*		
Maximum additional tier 1 capital	3.90	10,055	1.30	11,846	4.30	11,087	1.50	13,668
of which: additional tier 1 capital	*3.10*	*7,993*	*1.30*	*11,846*	*3.50*	*9,024*	*1.50*	*13,668*
of which: additional tier 1 buffer capital	*0.80*	*2,063*			*0.80*	*2,063*		
Eligible going concern capital								
Total going concern capital	20.33	52,405	5.75	52,405	18.32	47,237	5.18	47,237
Common equity tier 1 capital	13.68	35,280	3.87	35,280	13.68	35,280	3.87	35,280
Total loss-absorbing additional tier 1 capital[3]	6.64	17,126	1.88	17,126	4.64	11,958	1.31	11,958
of which: high-trigger loss-absorbing additional tier 1 capital	*4.64*	*11,958*	*1.31*	*11,958*	*4.64*	*11,958*	*1.31*	*11,958*
of which: low-trigger loss-absorbing tier 2 capital	*2.00*	*5,168*	*0.57*	*5,168*				
Required gone concern capital								
Total gone concern loss-absorbing capacity	9.51	24,531	3.27	29,786	10.33	26,644	3.70	33,715
of which: base requirement	*10.52*	*27,124*	*3.63*	*33,032*	*12.86*	*33,157*	*4.50*	*41,005*
of which: additional requirement for market share and LRD[4]	*0.81*	*2,088*	*0.28*	*2,563*	*1.08*	*2,785*	*0.38*	*3,417*
of which: applicable reduction on requirements	*(1.82)*	*(4,681)*	*(0.64)*	*(5,809)*	*(3.61)*	*(9,297)*	*(1.18)*	*(10,707)*
of which: rebate granted (equivalent to 42.5% of maximum rebate)	*(1.82)*	*(4,681)*	*(0.64)*	*(5,809)*	*(2.27)*	*(5,851)*	*(0.80)*	*(7,261)*
of which: reduction for usage of low-trigger tier 2 capital instruments					*(1.34)*	*(3,446)*	*(0.38)*	*(3,446)*
Eligible gone concern capital								
Total gone concern loss-absorbing capacity	13.57	35,000	3.84	35,000	15.58	40,168	4.41	40,168
Total tier 1 capital	0.94	2,415	0.26	2,415	0.94	2,415	0.26	2,415
of which: low-trigger loss-absorbing additional tier 1 capital	*0.94*	*2,415*	*0.26*	*2,415*	*0.94*	*2,415*	*0.26*	*2,415*
Total tier 2 capital	0.88	2,263	0.25	2,263	2.88	7,431	0.82	7,431
of which: low-trigger loss-absorbing tier 2 capital[3]	*0.67*	*1,724*	*0.19*	*1,724*	*2.67*	*6,892*	*0.76*	*6,892*
of which: non-Basel III-compliant tier 2 capital	*0.21*	*540*	*0.06*	*540*	*0.21*	*540*	*0.06*	*540*
TLAC-eligible senior unsecured debt	11.76	30,322	3.33	30,322	11.76	30,322	3.33	30,322
Total loss-absorbing capacity								
Required total loss-absorbing capacity	23.23	59,884	7.77	70,791	24.59	63,389	8.57	78,138
Eligible total loss-absorbing capacity	33.90	87,405	9.59	87,405	33.90	87,405	9.59	87,405
Risk-weighted assets / leverage ratio denominator								
Risk-weighted assets		257,831				257,831		
Leverage ratio denominator				911,232				911,232

1 Includes applicable add-ons of 0.54% for RWA. 2 Includes applicable add-ons of 1.08% for RWA and 0.375% for LRD. 3 Includes outstanding low-trigger loss-absorbing tier 2 capital instruments under the transitional rules of the Swiss SRB framework to meet the going concern requirements until the earlier of (i) their maturity or first call date or (ii) 31 December 2019, and to meet gone concern requirements thereafter. Outstanding low-trigger loss-absorbing tier 2 capital instruments are subject to amortization starting five years prior to their maturity, with the amortized portion qualifying as gone concern loss-absorbing capacity. Instruments available to meet gone concern requirements are eligible until one year before maturity, with a haircut of 50% applied in the last year of eligibility, as reflected in this table. Under the revised Capital Adequacy Ordinance issued in November 2019, effective 1 January 2020, the 50% haircut is no longer applied; refer to the "Regulatory and legal developments" section of this report for more information. 4 A lower add-on requirement for market share was applied in the fourth quarter of 2019, of which 0.27% was applied for RWA and 0.09% for LRD under the transitional rules, 0.36% was applied for RWA and 0.125% for LRD under the final rules as of 1 January 2020.

Swiss SRB going and gone concern information

	Swiss SRB, including transitional arrangements		Swiss SRB as of 1.1.20	
USD million, except where indicated	31.12.19	31.12.18	31.12.19	31.12.18
Eligible going concern capital				
Total going concern capital	52,405	48,421	47,237	42,413
Total tier 1 capital	47,237	42,413	47,237	42,413
Common equity tier 1 capital	35,280	34,608	35,280	34,608
Total loss-absorbing additional tier 1 capital	11,958	7,805	11,958	7,805
of which: high-trigger loss-absorbing additional tier 1 capital	*11,958*	*7,805*	*11,958*	*7,805*
Total tier 2 capital	5,168	6,008		
of which: low-trigger loss-absorbing tier 2 capital[1]	*5,168*	*6,008*		
Eligible gone concern capital[2]				
Total gone concern loss-absorbing capacity	35,000	33,830	40,168	39,837
Total tier 1 capital	2,415	2,378	2,415	2,378
of which: low-trigger loss-absorbing additional tier 1 capital[3]	*2,415*	*2,378*	*2,415*	*2,378*
Total tier 2 capital	2,263	1,464	7,431	7,471
of which: low-trigger loss-absorbing tier 2 capital[1]	*1,724*	*771*	*6,892*	*6,779*
of which: non-Basel III-compliant tier 2 capital[4]	*540*	*693*	*540*	*693*
TLAC-eligible senior unsecured debt	30,322	29,988	30,322	29,988
Total loss-absorbing capacity				
Total loss-absorbing capacity	87,405	82,251	87,405	82,251
Risk-weighted assets / leverage ratio denominator				
Risk-weighted assets	257,831	262,840	257,831	262,840
Leverage ratio denominator	911,232	904,458	911,232	904,458
Capital and loss-absorbing capacity ratios (%)				
Going concern capital ratio	20.3	18.4	18.3	16.1
of which: common equity tier 1 capital ratio	*13.7*	*13.2*	*13.7*	*13.2*
Gone concern loss-absorbing capacity ratio	13.6	12.9	15.6	15.2
Total loss-absorbing capacity ratio	33.9	31.3	33.9	31.3
Leverage ratios (%)				
Going concern leverage ratio	5.8	5.4	5.2	4.7
of which: common equity tier 1 leverage ratio	*3.87*	*3.83*	*3.87*	*3.83*
Gone concern leverage ratio	3.8	3.7	4.4	4.4
Total loss-absorbing capacity leverage ratio	9.6	9.1	9.6	9.1

1 Under the transitional rules of the Swiss SRB framework, outstanding low-trigger loss-absorbing tier 2 capital instruments are subject to amortization starting five years prior to their maturity, with the amortized portion qualifying as gone concern loss-absorbing capacity. 2 Instruments available to meet gone concern requirements are eligible until one year before maturity, with a haircut of 50% applied in the last year of eligibility, as reflected in this table. Under the revised Capital Adequacy Ordinance issued in November 2019, effective 1 January 2020, the 50% haircut is no longer applied; refer to the "Regulatory and legal developments" section of this report for more information. 3 The relevant capital instruments were issued after the new Swiss SRB framework had been implemented and therefore qualify as gone concern loss-absorbing capacity. 4 Non-Basel III-compliant tier 2 capital instruments qualify as gone concern instruments.

UBS Group AG vs UBS AG consolidated loss-absorbing capacity and leverage ratio information under Swiss SRB rules applicable as of 1 January 2020

As of 31 December 2019, going concern capital of UBS AG consolidated was USD 4.7 billion lower than for UBS Group AG consolidated, reflecting lower additional tier 1 (AT1) capital of USD 4.3 billion and lower common equity tier 1 (CET1) capital of USD 0.3 billion. The gone concern loss-absorbing capacity of UBS AG consolidated was USD 2.4 billion higher due to low-trigger loss-absorbing AT1 capital.

The difference of USD 0.3 billion in CET1 capital was primarily due to different accruals for capital returns to shareholders and differences in equity between UBS Group AG consolidated and UBS AG consolidated, partly offset by compensation-related capital accruals at the UBS Group AG level.

The difference of USD 4.3 billion in going concern loss-absorbing AT1 capital relates to loss-absorbing AT1 capital instruments issued at the UBS Group AG level, including USD 2.0 billion of high-trigger loss-absorbing Deferred Contingent Capital Plan (DCCP) awards granted to eligible employees for the performance years 2014 to 2018.

The difference of USD 2.4 billion in gone concern low-trigger AT1 capital relates to two capital instruments that were issued by UBS AG after the new Swiss SRB framework had been implemented and are therefore not recognized within going concern capital but qualify as gone concern loss-absorbing capacity. Issuances of low-trigger AT1 capital from UBS Group AG were all made prior to implementation of the new Swiss SRB framework and therefore qualify as going concern capital.

Differences in capital between UBS Group AG consolidated and UBS AG consolidated related to employee compensation plans will reverse to the extent underlying services are performed by employees of, and are consequently charged to, UBS AG and its subsidiaries. Such reversal generally occurs over the service period of the employee compensation plans.

The leverage ratio framework for UBS AG consolidated is consistent with that of UBS Group AG consolidated. As of 31 December 2019, the going concern leverage ratio of UBS AG consolidated was 0.5 percentage points lower than that of UBS Group AG consolidated, mainly as the going concern capital of UBS AG consolidated was USD 4.7 billion lower.

Audited |

Reconciliation of IFRS equity to Swiss SRB common equity tier 1 capital (UBS Group AG vs UBS AG consolidated)

	As of 31.12.19		
USD million	UBS Group AG (consolidated)	UBS AG (consolidated)	Difference
Total IFRS equity	54,707	53,928	779
Equity attributable to non-controlling interests	(174)	(174)	0
Defined benefit plans, net of tax	(9)	(9)	0
Deferred tax assets recognized for tax loss carry-forwards	(6,121)	(6,121)	0
Deferred tax assets on temporary differences, excess over threshold	(221)	(226)	6
Goodwill, net of tax	(6,178)	(6,178)	0
Intangible assets, net of tax	(195)	(195)	0
Compensation-related components (not recognized in net profit)	(1,717)		(1,717)
Expected losses on advanced internal ratings-based portfolio less provisions	(495)	(495)	0
Unrealized (gains) / losses from cash flow hedges, net of tax	(1,260)	(1,260)	0
Own credit related to (gains) / losses on financial liabilities measured at fair value that existed at the balance sheet date, net of tax	48	48	0
Prudential valuation adjustments	(104)	(104)	0
Accruals for proposed dividends to shareholders	(2,628)	(3,848)	1,220
Other	(72)	(86)	14
Total common equity tier 1 capital	35,582	35,280	302

Swiss SRB going and gone concern information (UBS Group AG vs UBS AG consolidated)

As of 31.12.19	Swiss SRB, including transitional arrangements			Swiss SRB as of 1.1.20		
USD million, except where indicated	UBS Group AG (consolidated)	UBS AG (consolidated)	Difference	UBS Group AG (consolidated)	UBS AG (consolidated)	Difference
Eligible going concern capital						
Total going concern capital	57,056	52,405	4,650	51,888	47,237	4,650
Total tier 1 capital	51,888	47,237	4,650	51,888	47,237	4,650
Common equity tier 1 capital	35,582	35,280	302	35,582	35,280	302
Total loss-absorbing additional tier 1 capital	16,306	11,958	4,348	16,306	11,958	4,348
of which: high-trigger loss-absorbing additional tier 1 capital	*13,892*	*11,958*	*1,935*	*13,892*	*11,958*	*1,935*
of which: low-trigger loss-absorbing additional tier 1 capital	*2,414*		*2,414*	*2,414*		*2,414*
Total tier 2 capital	5,168	5,168	0			
of which: low-trigger loss-absorbing tier 2 capital[1]	*5,168*	*5,168*	*0*			
Eligible gone concern capital[2]						
Total gone concern loss-absorbing capacity	32,585	35,000	(2,415)	37,753	40,168	(2,415)
Total tier 1 capital		2,415	(2,415)		2,415	(2,415)
of which: low-trigger loss-absorbing additional tier 1 capital		*2,415*[3]	*(2,415)*		*2,415*[3]	*(2,415)*
Total tier 2 capital	2,263	2,263	0	7,431	7,431	0
of which: low-trigger loss-absorbing tier 2 capital[1]	*1,724*	*1,724*	*0*	*6,892*	*6,892*	*0*
of which: non-Basel III-compliant tier 2 capital	*540*	*540*	*0*	*540*	*540*	*0*
TLAC-eligible senior unsecured debt	30,322	30,322	0	30,322	30,322	0
Total loss-absorbing capacity						
Total loss-absorbing capacity	89,641	87,405	2,235	89,641	87,405	2,235
Risk-weighted assets / leverage ratio denominator						
Risk-weighted assets	259,208	257,831	1,376	259,208	257,831	1,376
Leverage ratio denominator	911,325	911,232	94	911,325	911,232	94
Capital and loss-absorbing capacity ratios (%)						
Going concern capital ratio	22.0	20.3	1.7	20.0	18.3	1.7
of which: common equity tier 1 capital ratio	*13.7*	*13.7*	*0.0*	*13.7*	*13.7*	*0.0*
Gone concern loss-absorbing capacity ratio	12.6	13.6	(1.0)	14.6	15.6	(1.0)
Total loss-absorbing capacity ratio	34.6	33.9	0.7	34.6	33.9	0.7
Leverage ratios (%)						
Going concern leverage ratio	6.3	5.8	0.5	5.7	5.2	0.5
of which: common equity tier 1 leverage ratio	*3.90*	*3.87*	*0.03*	*3.90*	*3.87*	*0.03*
Gone concern leverage ratio	3.6	3.8	(0.3)	4.1	4.4	(0.3)
Total loss-absorbing capacity leverage ratio	9.8	9.6	0.2	9.8	9.6	0.2

1 Under the transitional rules of the Swiss SRB framework, outstanding low-trigger loss-absorbing tier 2 capital instruments are subject to amortization starting five years prior to their maturity, with the amortized portion qualifying as gone concern loss-absorbing capacity. 2 Instruments available to meet gone concern requirements are eligible until one year before maturity, with a haircut of 50% applied in the last year of eligibility, as reflected in this table. Under the revised Capital Adequacy Ordinance issued in November 2019, effective 1 January 2020, the 50% haircut is no longer applied; refer to the "Regulatory and legal developments" section of this report for more information. 3 The relevant capital instruments were issued after the new Swiss SRB framework had been implemented and therefore qualify as gone concern loss-absorbing capacity.

Equity attribution and return on attributed equity

We have updated our equity attribution framework as of 1 January 2019. Specifically, we have revised the capital ratio for risk-weighted assets (RWA) from 11% to 12.5% to better align with actual group capital levels and incrementally allocated to business divisions USD 2 billion of attributed equity that is related to certain common equity tier 1 (CET1) deduction items, previously held centrally.

In aggregate we allocated USD 7 billion of additional attributed equity to the business divisions. Prior periods have been restated to reflect this change.

→ **Refer to the "Significant accounting and financial reporting changes" section of this report for more information about the changes to our equity attribution framework**

Under our equity attribution framework, tangible equity is attributed based on a weighting of 50% each for average RWA and average leverage ratio denominator (LRD), which both include resource allocations from Corporate Center to the business divisions. Average RWA and LRD are converted to their CET1 capital equivalents based on capital ratios of 12.5% and 3.75%, respectively. If the attributed tangible equity calculated under the weighted-driver approach is less than the CET1 capital equivalent of risk-based capital (RBC) for any business division, the CET1 capital equivalent of RBC is used as a floor for that business division.

Furthermore, we allocate to business divisions attributed equity that is related to certain CET1 deduction items, such as compensation-related components and the expected losses on advanced internal ratings-based portfolio less general provisions.

In addition to tangible equity, we allocate equity to our businesses to support goodwill and intangible assets.

We attribute all remaining Basel III capital deduction items to Corporate Center Group items. These deduction items include deferred tax assets (DTAs) recognized for tax loss carry-forwards and DTAs on temporary differences in excess of the threshold, which together constitute the largest component of Corporate Center Group items, dividend accruals and unrealized gains from cash flow hedges.

Average equity attributed to business divisions and Corporate Center increased by USD 1.8 billion to USD 54.2 billion in 2019, primarily due to an increase in attributed equity for Corporate Center, mainly reflecting higher unrealized gains from cash flow hedges and the recognition of the Swiss pension plan surplus on the balance sheet at the end of the third quarter of 2019, resulting in higher equity attributable to shareholders. The Swiss pension plan surplus was subsequently derecognized in the fourth quarter of 2019.

→ **Refer to "Balance sheet, liquidity and funding management" in the "Treasury management" section of this report for more information about movements in equity attributable to shareholders**

Average attributed equity

	For the year ended		
USD billion	31.12.19	31.12.18	31.12.17
Global Wealth Management	16.6	16.3	15.4
Personal & Corporate Banking	8.4	8.0	7.5
Asset Management	1.8	1.8	1.8
Investment Bank	12.3	13.0	12.0
Corporate Center	15.1	13.3	17.2
of which: deferred tax assets[1]	*7.1*	*7.1*	*10.1*
of which: related to retained RWA and LRD[2]	*2.8*	*3.0*	*3.0*
of which: defined benefit plans	*0.5*	*0.0*	*0.0*
of which: dividend accruals and others	*4.6*	*3.2*	*4.1*
Average equity attributed to business divisions and Corporate Center	54.2	52.4	53.9

1 Includes average attributed equity related to the Basel III capital deduction items for deferred tax assets (deferred tax assets recognized for tax loss carry-forwards and deferred tax assets on temporary differences, excess over threshold) as well as retained RWA and LRD related to deferred tax assets. 2 Excludes average attributed equity related to retained RWA and LRD related to deferred tax assets.

Return on attributed equity[1]

	For the year ended		
In %	31.12.19	31.12.18	31.12.17
Reported			
Global Wealth Management	20.5	20.0	20.9
Personal & Corporate Banking	17.1	22.5	19.5
Asset Management	29.7	23.5	30.8
Investment Bank	6.4	11.5	9.1
Adjusted			
Global Wealth Management	20.9	20.5	24.7
Personal & Corporate Banking	17.3	18.1	20.9
Asset Management	31.5	26.6	28.0
Investment Bank	8.6	12.9	11.2

1 Return on attributed equity for Corporate Center is not shown, as it is not meaningful.

UBS shares

UBS Group AG shares

Audited | As of 31 December 2019, IFRS equity attributable to shareholders amounted to USD 54,533 million, represented by 3,859,055,395 shares issued. Shares issued increased by 3,420,646 shares in 2019, reflecting the issuance of shares out of conditional share capital upon exercise of employee share options.

Each share has a par value of CHF 0.10, carries one vote if entered into the share register as having the right to vote, and also entitles the holder to a proportionate share of distributed dividends. All shares are fully paid up. As the articles of association of UBS Group AG indicate, there are no other classes of shares and no preferential rights for shareholders. ▲

→ **Refer to the "Corporate governance" section of this report for more information about UBS shares**

UBS Group share information

	As of or for the year ended		% change from
	31.12.19	31.12.18	31.12.18
Shares issued	3,859,055,395	3,855,634,749	0
Treasury shares	243,021,296	166,467,802	46
of which: related to share repurchase program	*117,706,540*	*48,318,800*	*144*
Shares outstanding	3,616,034,099	3,689,166,947	(2)
Basic earnings per share (USD)[1]	1.17	1.21	(3)
Diluted earnings per share (USD)[1]	1.14	1.18	(3)
Basic earnings per share (CHF)[2]	1.17	1.18	(1)
Diluted earnings per share (CHF)[2]	1.14	1.14	0
Equity attributable to shareholders (USD million)	54,533	52,928	3
Less: goodwill and intangible assets (USD million)	6,469	6,647	(3)
Tangible equity attributable to shareholders (USD million)	48,064	46,281	4
Total book value per share (USD)	15.08	14.35	5
Tangible book value per share (USD)	13.29	12.55	6
Share price (USD)[3]	12.63	12.44	2
Market capitalization (USD million)	45,661	45,907	(1)

1 Refer to "Note 9 Earnings per share (EPS) and shares outstanding" in the "Consolidated financial statements" section of this report for more information. 2 Basic and diluted earnings per share in Swiss francs are calculated based on a translation of net profit / (loss) under our US dollar presentation currency. 3 Represents the share price as listed on the SIX Swiss Exchange, translated to US dollars using the respective spot rate.

Holding of UBS Group AG shares

Group Treasury holds UBS Group AG shares to hedge future share delivery obligations related to employee share-based compensation awards and also holds shares purchased under the share repurchase program, which will be canceled by means of a capital reduction to be proposed at future annual general meetings. In addition, the Investment Bank holds a limited number of UBS Group AG shares, primarily in its capacity as a market-maker with regard to UBS Group AG shares and related derivatives and to hedge certain issued structured debt instruments. As of 31 December 2019, we held a total of 243,021,296 treasury shares (31 December 2018: 166,467,802), or 6.3% (31 December 2018: 4.3%) of shares issued. Treasury shares acquired under our share repurchase program totaled 117.7 million as of 31 December 2019 (31 December 2018: 48.3 million) for a total consideration of CHF 1,550 million (USD 1,567 million). The remaining shares were primarily held to hedge our share delivery obligations related to employee share-based compensation awards and totaled 125.2 million shares as of 31 December 2019 (31 December 2018: 117.9 million).

Share delivery obligations related to employee share-based compensation awards totaled 156 million shares as of 31 December 2019 (31 December 2018: 146 million). Share delivery obligations are calculated on the basis of undistributed notional share awards, options and stock appreciation rights, taking applicable performance conditions into account. Treasury shares held are delivered to employees at exercise or vesting. However, share delivery obligations related to certain options and stock appreciation rights can also be satisfied by shares issued out of conditional capital. As of 31 December 2019, the number of UBS Group AG shares that could have been issued out of conditional capital for this purpose was 122 million (31 December 2018: 125 million).

The table below outlines the market purchases of UBS Group AG shares by Group Treasury. It does not include the activities of the Investment Bank.

Treasury share purchases

	Share repurchase program[1]			Other treasury shares purchased[2]	
Month of purchase[3]	Number of shares	Average price in CHF	Remaining volume of share repurchase program in CHF million	Number of shares	Average price in USD
January 2019			1,250		
February 2019			1,250		
March 2019			1,250	25,000,000	12.19
April 2019	4,000,000	13.72	1,195		
May 2019	11,570,700	12.54	1,050	7,200,000	11.64
June 2019	8,545,700	11.70	950	21,800,000	11.72
July 2019	6,000,000	11.30	882		
August 2019	22,253,000	10.43	650		
September 2019			650		
October 2019	14,000,000	11.73	486		
November 2019	3,018,340	11.85	450		
December 2019			450[4]		

1 UBS has an active share repurchase program to buy back up to CHF 2 billion of its own shares over the three-year period starting from March 2018. The share repurchase information in this table is disclosed in Swiss francs as the share buybacks are transacted in Swiss francs on a separate trading line on the SIX Swiss Exchange. 2 This table excludes purchases for the purpose of hedging derivatives linked to UBS Group AG shares and for market-making in UBS Group AG shares. The table also excludes UBS Group AG shares purchased by pension and retirement benefit funds for UBS employees, which are managed by a board of UBS management and employee representatives in accordance with Swiss law. UBS's pension and other post-employment benefit funds purchased 966,902 UBS Group AG shares during the year and held 15,701,125 UBS Group AG shares as of 31 December 2019. 3 Based on the transaction date of the respective treasury share purchases. 4 The remaining volume of the share repurchase program as of 31 December 2019 was USD 465 million. This was calculated based on the remaining volume of CHF 450 million as of 31 December 2019 and the respective currency translation rate as of this date.

Trading volumes

	For the year ended		
1,000 shares	31.12.19	31.12.18	31.12.17
SIX Swiss Exchange total	4,161,555	3,277,995	3,084,804
SIX Swiss Exchange daily average	16,713	13,165	12,290
New York Stock Exchange total	203,967	166,728	146,902
New York Stock Exchange daily average	809	664	585

Source: Reuters

Listing of UBS Group AG shares

UBS Group AG shares are listed on the SIX Swiss Exchange (SIX). They are also listed on the New York Stock Exchange (the NYSE) as global registered shares. As such, they can be traded and transferred across applicable borders, without the need for conversion, with identical shares traded on different stock exchanges in different currencies.

During 2019, the average daily trading volume of UBS Group AG shares was 16.7 million shares on SIX and 0.8 million shares on the NYSE. SIX is expected to remain the main venue for determining the movement in our share price, because of the high volume traded on this exchange.

During the hours in which both SIX and the NYSE are simultaneously open for trading (generally 3:30 p.m. to 5:30 p.m. Central European Time), price differences between these exchanges are likely to be arbitraged away by professional market-makers. Accordingly, the share price will typically be similar between the two exchanges when considering the prevailing US dollar / Swiss franc exchange rate. When SIX is closed for trading, globally traded volumes will typically be lower. However, the specialist firm making a market in UBS Group AG shares on the NYSE is required to facilitate sufficient liquidity and maintain an orderly market in UBS Group AG shares throughout normal NYSE trading hours.

Ticker symbols UBS Group AG

Trading exchange	SIX/NYSE	Bloomberg	Reuters
SIX Swiss Exchange	UBSG	UBSG SW	UBSG.S
New York Stock Exchange	UBS	UBS UN	UBS.N

Security identification codes

ISIN	CH0244767585
Valoren	24 476 758
CUSIP	CINS H42097 10 7

Corporate governance and compensation

Management report

Audited information according to the Swiss law and applicable regulatory requirements and guidance

Disclosures provided are in line with the requirements of article 663c para. 1 and 3 of the Swiss Code of Obligations (supplementary disclosures for companies whose shares are listed on a stock exchange: shareholdings) and the Ordinance against Excessive Compensation in Listed Stock Corporations (tables containing such information are marked as "Audited" throughout this section), as well as other applicable regulations and guidance.

Corporate governance

UBS Group AG is subject to, and complies with, all relevant Swiss legal and regulatory requirements regarding corporate governance, including the SIX Swiss Exchange's Directive on Information Relating to Corporate Governance, as well as the standards established in the Swiss Code of Best Practice for Corporate Governance, including the appendix on executive compensation.

In addition, as a foreign company with shares listed on the New York Stock Exchange (the NYSE), UBS Group AG complies with all relevant corporate governance standards applicable to foreign private issuers.

The Organization Regulations of UBS Group AG, adopted by the Board of Directors (the BoD) based on article 716b of the Swiss Code of Obligations and articles 25 and 27 of the Articles of Association of UBS Group AG, constitute our primary corporate governance guidelines.

To the extent practicable, the governance structures of UBS Group AG and UBS AG are aligned. UBS AG complies with all relevant Swiss legal and regulatory corporate governance requirements. As a foreign private issuer with debt securities listed on the NYSE, UBS AG also complies with the relevant NYSE corporate governance standards. The discussion in this section refers to both UBS Group AG and UBS AG, unless specifically noted otherwise or unless the information discussed is relevant only to companies with listed shares and therefore only applicable to UBS Group AG. This is in line with US Securities and Exchange Commission regulations and NYSE listing standards.

- → **Refer to the Articles of Association of UBS Group AG and of UBS AG, and to the Organization Regulations of UBS Group AG, available at *www.ubs.com/governance* and *www.ubs.com/ubs-ag-governance*, for more information**
- → **The SIX Swiss Exchange's Directive on Information Relating to Corporate Governance is available at *www.six-exchange-regulation.com/en/home/regulation/issuer.html*, the Swiss Code of Best Practice for Corporate Governance is available at *www.economiesuisse.ch/en/publications/swiss-code-best-practice-corporate-governance* and the NYSE rules are available at *www.nyse.com/publicdocs/nyse/listing/NYSE_Corporate_Governance_Guide.pdf***

Differences from corporate governance standards relevant to US-listed companies

According to the NYSE listing standards on corporate governance, foreign private issuers are required to disclose any significant ways in which their corporate governance practices differ from those that have to be followed by domestic companies. These differences are discussed in the following paragraphs.

Responsibility of the Audit Committee with regard to independent auditors

Our Audit Committee is responsible for the compensation, retention and oversight of the independent auditors. It assesses the performance and qualification of the external auditors and submits its proposal for appointment, reappointment or removal of the independent auditors to the full BoD. As required by the Swiss Code of Obligations, the BoD then submits its proposal to the shareholders for their vote at the Annual General Meeting (the AGM). Under NYSE standards, the Audit Committee is also responsible for the appointment of the independent auditors.

Discussion of risk assessment and risk management policies by the Risk Committee

In accordance with the respective Organization Regulations of UBS Group AG and UBS AG, the Risk Committee, instead of the Audit Committee, oversees our risk principles and risk capacity on behalf of the BoD. The Risk Committee is responsible for monitoring our adherence to those risk principles and for monitoring whether business divisions and control units maintain appropriate systems of risk management and control.

Supervision of the internal audit function

The Chairman of the BoD (the Chairman) and the Audit Committee share the supervisory responsibility and authority with respect to the internal audit function. Under NYSE standards, only the Audit Committee supervises the internal audit function.

Responsibility of the Compensation Committee for performance evaluations of senior management of UBS Group AG

In line with Swiss law, our Compensation Committee, together with the BoD, proposes for shareholder approval at the AGM the maximum aggregate amount of compensation for the BoD, the maximum aggregate amount of fixed compensation for the Group Executive Board (the GEB) and the aggregate amount of variable compensation for the GEB. The shareholders elect the members of the Compensation Committee at the AGM. Under NYSE standards, it is the responsibility of the Compensation Committee to evaluate senior management performance and to determine and approve, as a committee or together with the other independent directors, the compensation thereof.

Proxy statement reports of the Audit Committee and the Compensation Committee

NYSE listing standards would require the aforementioned committees to submit their reports directly to shareholders. However, under Swiss law, all our reports addressed to shareholders, including those from the aforementioned committees, are provided to and approved by the BoD, which has ultimate responsibility to the shareholders.

Shareholders' votes on equity compensation plans

While the NYSE standards would require shareholder approval for the establishment of and material revisions to all equity compensation plans, Swiss law authorizes the BoD to approve compensation plans. Shareholder approval is only mandatory if equity-based compensation plans require an increase in capital. No shareholder approval is required if shares for such plans are purchased in the market.

→ **Refer to "Board of Directors" in this section for more information about the Board of Directors' committees**

→ **Refer to "Share capital structure" in this section for more information about UBS Group AG's capital**

Group structure and shareholders

Operational Group structure

As of 31 December 2019, the operational structure of the Group is comprised of the Global Wealth Management, Personal & Corporate Banking, Asset Management and Investment Bank business divisions, as well as Corporate Center.

→ **Refer to the "Our businesses" section on page 20 of this report for more information about our business divisions and Corporate Center**

→ **Refer to "Financial and operating performance" on page 71 and to "Note 2 Segment reporting" in the "Consolidated financial statements" section on page 347 of this report for more information**

→ **Refer to the "Our evolution" section on page 14 of this report for more information**

Listed and non-listed companies belonging to the Group

The Group includes a number of consolidated entities, of which only UBS Group AG shares are listed.

UBS Group AG's registered office is at Bahnhofstrasse 45, CH-8001 Zurich, Switzerland. UBS Group AG shares are listed on the SIX Swiss Exchange (ISIN: CH0244767585) and on the NYSE (CUSIP: H42097107).

→ **Refer to "UBS shares" in the "Capital management" section on page 197 of this report for information about UBS Group AG's market capitalization and shares held by Group entities**

→ **Refer to "Note 31 Interests in subsidiaries and other entities" in the "Consolidated financial statements" section on page 458 of this report for more information about the significant subsidiaries of the Group**

Significant shareholders

General rules

Under the Swiss Federal Act on Financial Market Infrastructures and Market Conduct in Securities and Derivatives Trading of 19 June 2015 (the FMIA), anyone directly or indirectly, or acting in concert with third parties, holding shares in a company listed in Switzerland or holding derivative rights related to shares of such a company must notify the company and the SIX Swiss Exchange (the SIX) if the holding reaches, falls below or exceeds one of the following thresholds: 3, 5, 10, 15, 20, 25, 33⅓, 50 or 66⅔% of voting rights, regardless of whether or not such rights may be exercised. Nominee companies that cannot autonomously decide how voting rights are exercised are not required to notify the company and the SIX if they reach, exceed or fall below the threshold percentages.

Pursuant to the Swiss Code of Obligations, we disclose in "Note 24 Significant shareholders" to the UBS Group AG standalone financial statements the identity of any shareholder with a holding of more than 5% of the total share capital of UBS Group AG.

Shareholders subject to FMIA disclosure notifications

According to the mandatory FMIA disclosure notifications filed with UBS Group AG and the SIX, as of 31 December 2019, the following entities held more than 3% of the total share capital of UBS Group AG: Artisan Partners Limited Partnership, Milwaukee, disclosed a holding of 3.02% of the total share capital of UBS Group AG on 20 September 2019; Norges Bank, Oslo, disclosed a holding of 3.01% on 24 July 2019; Dodge & Cox, San Francisco, disclosed a holding of 3.03% on 30 November 2018; BlackRock Inc., New York, disclosed a holding of 4.99% on 28 August 2018; and MFS Investment Management, Boston, disclosed a holding of 3.05% on 10 February 2016. As registration in the UBS share register is optional, shareholders crossing the aforementioned thresholds requiring SIX notification under FMIA, do not necessarily appear in the below table.

The above disclosures have not been subsequently superseded, and no new disclosures of significant shareholdings have been made since 31 December 2019.

In accordance with the FMIA, the aforementioned holdings are calculated in relation to the total share capital of UBS Group AG reflected in its Articles of Association at the time of the respective disclosure notification.

Information on disclosures under the FMIA is available at *www.six-exchange-regulation.com/en/home/publications/significant-shareholders.html*.

Shareholders registered in the UBS share register with 3% or more of the share capital of UBS Group AG

As a supplement to the mandatory disclosure requirements according to the SIX Swiss Exchange Corporate Governance Directive, we disclose in the table below the shareholders (acting in their own name or in their capacity as nominees for other investors or beneficial owners), who were registered in the UBS share register with 3% or more of the total share capital of UBS Group AG as of 31 December 2019.

→ **Refer to "Shareholders' participation rights" on page 211 of this section for more information about "Voting rights, restrictions and representation"**

Cross-shareholdings

UBS Group AG has no cross-shareholdings where reciprocal ownership would be in excess of 5% of capital or voting rights with any other company.

Audited |

Shareholders registered in the UBS share register with 3% or more of the total share capital

% of share capital	31.12.19	31.12.18	31.12.17
Chase Nominees Ltd., London[1]	10.94	12.08	11.16
DTC (Cede & Co.), New York[1,2]	7.57	7.23	6.64
Nortrust Nominees Ltd., London[1]	4.90	4.14	4.11

1 Nominee companies and securities clearing organization cannot autonomously decide how voting rights are exercised and are therefore not obligated to notify UBS and the SIX if they reach, exceed or fall below the threshold percentages according to the FMIA disclosure notification. Consequently, they do not appear in the above section "Shareholders subject to FMIA disclosure notifications." 2 DTC (Cede & Co.), New York, "The Depository Trust Company," is a US securities clearing organization.

Share capital structure

Ordinary share capital

At year-end 2019, UBS Group AG had 3,859,055,395 issued shares with a par value of CHF 0.10 each, leading to a share capital of CHF 385,905,539.50.

Under Swiss company law, shareholders must approve in a general meeting of shareholders an ordinary share capital increase or the creation of conditional or authorized share capital. In 2019, our shareholders were not asked to approve an ordinary share capital increase or the creation of conditional or authorized share capital.

Share capital increased during the year by 3,420,646 shares, as shares were issued out of existing conditional capital due to the exercise of employee options.

Issued share capital of UBS Group AG

	Share capital in CHF	Number of shares	Par value in CHF
As of 31 December 2018	385,563,475	3,855,634,749	0.10
Issue of shares out of conditional capital due to employee options exercised in 2019	342,065	3,420,646	0.10
As of 31 December 2019	385,905,540	3,859,055,395	0.10

Distribution of UBS shares

As of 31 December 2019	Shareholders registered		Shares registered	
Number of shares registered	Number	%	Number	% of shares issued
1–100	23,723	10.7	1,326,318	0.0
101–1,000	112,996	51.1	54,147,606	1.4
1,001–10,000	75,672	34.2	222,934,423	5.8
10,001–100,000	7,953	3.6	190,968,118	4.9
100,001–1,000,000	617	0.3	180,530,257	4.7
1,000,001–5,000,000	86	0.0	192,076,612	5.0
5,000,001–38,590,553 (1%)	26	0.0	333,943,353	8.7
1–2%	1	0.0	62,176,439	1.6
2–3%	0	0.0	0	0.0
3–4%	0	0.0	0	0.0
4–5%	1	0.0	189,027,452	4.9
Over 5%	2[1]	0.0	714,426,618	18.5
Total registered	221,077	100.0	2,141,557,196[2]	55.5
Unregistered[3]			1,717,498,199	44.5
Total	221,077	100.0	3,859,055,395	100.0

1 On 31 December 2019, Chase Nominees Ltd., London, entered as a fiduciary / nominee, was registered with 10.94% of all UBS shares issued. However, according to the provisions of UBS Group AG, voting rights of fiduciaries / nominees are limited to a maximum of 5% of all UBS shares issued. The US securities clearing organization DTC (Cede & Co.), New York, was registered with 7.57% of all UBS shares issued and is not subject to this 5% voting limit as a securities clearing organization. 2 Of the total shares registered, 374,219,777 shares did not carry voting rights. 3 Shares not entered in the UBS share register as of 31 December 2019.

Conditional share capital

At year-end 2019, the following conditional share capital was available to UBS Group AG's BoD:

– A maximum of CHF 38,000,000 represented by up to 380,000,000 fully paid registered shares with a nominal value of CHF 0.10 each, to be issued through the voluntary or mandatory exercise of conversion rights and/or warrants granted in connection with the issuance of bonds or similar financial instruments on national or international capital markets. This conditional capital allowance was approved at the Extraordinary General Meeting (EGM) held on 26 November 2014, originally approved at the AGM of UBS AG on 14 April 2010. The BoD has not made use of such allowance.
– A maximum of CHF 12,170,583.00 represented by 121,705,830 fully paid registered shares with a par value of CHF 0.10 each, to be issued upon exercise of employee options issued to employees and members of the management and of the BoD of UBS Group AG and its subsidiaries. This conditional capital allowance was approved by the shareholders at the same EGM in 2014.

→ **Refer to article 4a of the Articles of Association of UBS Group AG for more information about the terms and conditions of the issue of shares out of existing conditional capital. The Articles of Association are available at *www.ubs.com/governance***

Conditional capital of UBS Group AG

As of 31 December 2019	Maximum number of shares to be issued	Year approved by Extraordinary General Meeting	% of shares issued
Employee equity participation plans	121,705,830	2014	3.15
Conversion rights / warrants granted in connection with bonds	380,000,000	2014	9.85
Total	501,705,830		13.00

Authorized share capital

UBS Group AG had no authorized capital available to issue on 31 December 2019.

Changes in capital

In accordance with International Financial Reporting Standards, Group equity attributable to shareholders was USD 54.5 billion as of 31 December 2019 (2018: USD 52.9 billion; and 2017: USD 52.5 billion). UBS Group AG shareholders' equity was represented by 3,859,055,395 issued shares as of 31 December 2019 (2018: 3,855,634,749 shares; and 2017: 3,853,096,603 shares).

→ **Refer to "Statement of changes in equity" in the "Consolidated financial statements" section on page 304 of this report for more information about changes in shareholders' equity over the last three years**

Ownership

Ownership of UBS Group AG shares is widely spread. The tables in this section provide information about the distribution of UBS Group AG shareholders by category and geographic location. This information relates only to shareholders registered in the UBS share register and cannot be assumed to be representative of UBS Group AG's entire investor base or the actual beneficial ownership. Only shareholders registered in the share register as "shareholders with voting rights" are entitled to exercise voting rights.

→ **Refer to "Shareholders' participation rights" in this section for more information**

As of 31 December 2019, 1,767,337,419 UBS Group AG shares were registered in the share register and carried voting rights, 374,219,777 shares were registered in the share register without voting rights, and 1,717,498,199 shares were not registered in the UBS share register. All shares were fully paid up and eligible for dividends. There are no preferential rights for shareholders, and no other classes of shares have been issued by UBS Group AG.

Shareholders, legal entities and nominees: type and geographical distribution

	Shareholders registered	
As of 31 December 2019	Number	%
Individual shareholders	216,339	97.9
Legal entities	4,537	2.0
Nominees, fiduciaries	201	0.1
Total registered shares		
Unregistered shares		
Total	221,077	100.0

	Individual shareholders		Legal entities		Nominees		Total	
	Number	%	Number	%	Number	%	Number	%
Americas	1,959	0.9	118	0.1	93	0.0	2,170	1.0
of which: USA	*1,406*	*0.6*	*60*	*0.0*	*87*	*0.0*	*1,553*	*0.7*
Asia Pacific	5,195	2.3	111	0.1	18	0.0	5,324	2.4
Europe, Middle East and Africa	12,548	5.7	230	0.1	55	0.0	12,833	5.8
of which: Germany	*4,036*	*1.8*	*29*	*0.0*	*4*	*0.0*	*4,069*	*1.8*
of which: UK	*4,652*	*2.1*	*8*	*0.0*	*6*	*0.0*	*4,666*	*2.1*
of which: rest of Europe	*3,560*	*1.6*	*189*	*0.1*	*44*	*0.0*	*3,793*	*1.7*
of which: Middle East and Africa	*300*	*0.1*	*4*	*0.0*	*1*	*0.0*	*305*	*0.1*
Switzerland	196,637	88.9	4,078	1.8	35	0.0	200,750	90.8
Total registered shares								
Unregistered shares								
Total	216,339	97.9	4,537	2.0	201	0.1	221,077	100.0

At year-end 2019, UBS owned 243,021,296 UBS Group AG registered shares, which corresponded to 6.30% of the total share capital of UBS Group AG. At the same time, we had acquisition and disposal positions relating to 270,270,154 and 177,652,614 voting rights of UBS Group AG, corresponding to 7.01% and 4.61% of the total voting rights of UBS Group AG, respectively. Of the disposal positions, 4.03% consisted of voting rights on shares deliverable in respect of employee awards. The calculation methodology for the acquisition and disposal positions is based on the Swiss Financial Market Supervisory Authority Ordinance on Financial Market Infrastructure, which sets forth that all future potential share delivery obligations, irrespective of the contingent nature of the delivery, must be taken into account.

Employee share ownership

Employee share ownership is encouraged and made possible in a variety of ways. One example is our Equity Plus Plan. This is a voluntary plan that provides eligible employees with the opportunity to purchase UBS Group AG shares at market value and receive, at no additional cost, one notional UBS Group AG share for every three shares purchased. If the shares purchased are held for three years and the employee remains in employment, the notional shares vest. Another example is the Equity Ownership Plan (EOP). This is a mandatory deferral plan for all employees excluding GEB members, Group Managing Directors (GMDs) and Group or Divisional Vice Chair role holders, with total compensation greater than USD / CHF 300,000. These employees receive 60% of their deferred performance award under the EOP in notional shares (variations apply for Asset Management). The plan includes provisions that allow the firm to reduce or fully forfeit the unvested deferred portion of the granted EOP award if an employee commits certain harmful acts, and in most cases trigger forfeiture where employment has been terminated. To encourage our employees to develop and manage the business in a way that delivers sustainable returns, EOP awards granted to certain senior employees will only vest if both Group and business division performance conditions are met.

As of 31 December 2019, UBS employees held an estimated 6% of UBS shares outstanding (including approximately 4% in unvested/blocked actual and notional shares from our compensation programs). These figures are based on known shareholding information from employee participation plans, personal holdings with UBS and selected individual retirement plans. At the end of 2019, an estimated 31% of all employees held UBS shares through the firm's employee share participation plans.

→ **Refer to the "Compensation" section on page 242 of this report for more information**

Shares and participation certificates

UBS Group AG has a single class of shares, which are registered shares in the form of uncertificated securities (in the sense of the Swiss Code of Obligations) and intermediary-held securities (in the sense of the Swiss Federal Act on Intermediated Securities). Each registered share has a par value of CHF 0.10 and carries one vote subject to the restrictions set out under "Transferability, voting rights and nominee registration" on the following page.

We have no participation certificates outstanding.

Shares registered	
Number	%
491,586,703	12.7
510,091,779	13.2
1,139,878,714	29.5
2,141,557,196	55.5
1,717,498,199	44.5
3,859,055,395	100.0

Individual shareholders		Legal entities		Nominees		Total	
Number of shares	%	Number of shares	%	Number of shares	%	Number of shares	%
2,893,962	0.1	32,768,837	0.8	395,673,760	10.3	431,336,559	11.2
1,473,734	*0.0*	*12,917,654*	*0.3*	*395,320,657*	*10.2*	*409,712,045*	*10.6*
24,775,054	0.6	17,640,509	0.5	11,126,515	0.3	53,542,078	1.4
48,190,697	1.2	25,338,525	0.7	707,612,163	18.3	781,141,385	20.2
13,583,401	*0.4*	*435,407*	*0.0*	*15,106,719*	*0.4*	*29,125,527*	*0.8*
23,463,495	*0.6*	*698,369*	*0.0*	*661,504,543*	*17.1*	*685,666,407*	*17.8*
9,829,854	*0.3*	*24,002,859*	*0.6*	*30,950,329*	*0.8*	*64,783,042*	*1.7*
1,313,947	*0.0*	*201,890*	*0.0*	*50,572*	*0.0*	*1,566,409*	*0.0*
415,726,990	10.8	434,343,908	11.3	25,466,276	0.7	875,537,174	22.7
491,586,703	12.7	510,091,779	13.2	1,139,878,714	29.5	2,141,557,196	55.5
0		0		0		1,717,498,199	44.5
491,586,703	12.7	510,091,779	13.2	1,139,878,714	29.5	3,859,055,395	100.0

Our shares are listed on the NYSE as global registered shares. As such, they can be traded and transferred across applicable borders, without the need for conversion, with identical shares traded on different stock exchanges in different currencies.

→ **Refer to "UBS shares" in the "Capital management" section on page 197 of this report for more information**

Distributions to shareholders

The decision to pay a dividend and the amount of any dividend depend on a variety of factors, including our profits, cash flow generation and capital ratios.

At the 2020 AGM, the BoD intends to propose to shareholders for approval a dividend of USD 0.73 per share for the financial year 2019. Shareholders whose shares are held through SIX SIS AG will receive dividends in Swiss francs, based on a public exchange rate on the day prior to the ex-dividend date. Shareholders holding shares through The Depository Trust Company in New York and Computershare will be paid dividends in US dollars.

As newly required under Swiss tax law, 50% of the dividend will be paid out of retained earnings and the balance will be paid out of capital contribution reserves. Dividends paid out of capital contribution reserves are not subject to Swiss withholding tax. The portion of the dividend paid out of retained earnings will be subject to a 35% Swiss withholding tax. For US federal income tax purposes, we expect that the dividend will be paid out of current or accumulated earnings and profits.

Provided that the proposed dividend distribution out of retained earnings and out of the capital contribution reserve will be approved at the 2020 AGM, the payment of USD 0.73 per share will be made on 7 May 2020 to holders of shares on the record date 6 May 2020. The shares will be traded ex-dividend as of 5 May 2020 and, accordingly, the last day on which the shares may be traded with entitlement to receive the dividend will be 4 May 2020.

In March 2018, UBS initiated a share repurchase program of up to CHF 2 billion over a three-year period. The UBS shares repurchased under the program will be canceled by means of a capital reduction, to be proposed at future annual general meetings. Under the program, UBS repurchased shares totaling USD 1.567 billion during 2018 and 2019. In 2019, we purchased a total of USD 0.8 billion of shares under our share repurchase program. For the first half of 2020, we expect to repurchase an additional USD 0.45 billion of shares. We will assess further repurchases in the second half of 2020 considering business conditions and any idiosyncratic developments.

→ **Refer to "UBS shares" in the "Capital management" section on page 197 of this report for more information about the share repurchase program**

Transferability, voting rights and nominee registration

We do not apply any restrictions or limitations on the transferability of shares. Voting rights may be exercised without any restrictions by shareholders entered into the share register if they expressly render a declaration of beneficial ownership according to the provisions of the Articles of Association.

We have special provisions for the registration of fiduciaries and nominees. Fiduciaries and nominees are entered in the share register with voting rights up to a total of 5% of all issued UBS Group AG shares if they agree to disclose, upon our request, beneficial owners holding 0.3% or more of all issued UBS Group AG shares. An exception to the 5% voting limit rule is in place for securities clearing organizations, which applied as of 31 December 2019 to The Depository Trust Company in New York.

→ **Refer to "Shareholders' participation rights" in this section for more information**

Convertible bonds and options

As of 31 December 2019, there were no contingent capital securities or convertible bonds outstanding requiring the issuance of new shares.

→ **Refer to the "Capital management" section on page 175 of this report for more information about our outstanding capital instruments**

As of 31 December 2019, there were no employee options and stock appreciation rights outstanding. The last remaining option awards and stock appreciation rights expired during 2019. Option-based compensation plans are sourced by issuing new shares out of conditional capital. As of 31 December 2019, 121,705,830 unissued UBS Group AG shares in conditional share capital were available for the issuance of new shares for this purpose.

→ **Refer to "Conditional share capital" in this section for more information**

→ **Refer to "Note 30 Employee benefits: variable compensation" in the "Consolidated financial statements" section on page 450 of this report for more information about outstanding options and stock appreciation rights**

Shareholders' participation rights

We are committed to shareholder participation in our decision-making process. During 2019, we continued to enhance the online voting platform to offer our registered shareholders a more convenient log-in and online voting process. Registered shareholders are sent personal invitations to the general meetings of shareholders. Together with the invitation materials, they receive a personal one-time password and a QR code to easily login to our online voting platform, where they can enter their voting instructions or order an admission card for the general meeting. For the 2019 general meeting, we introduced various technological measures to be more environmentally friendly.

Shareholders who choose not to receive the comprehensive invitation materials are informed of the upcoming general meeting by a short letter containing a personal one-time password and a QR code for online voting as well as a reference to *www.ubs.com/agm*, where all information for the upcoming general meeting is available.

Relations with shareholders

We regularly inform all our shareholders about our activities and performance, as well as other developments.

→ **Refer to "Information policy" in this section for more information**

The Annual General Meeting of shareholders (the AGM) offers shareholders the opportunity to raise any questions to the Board of Directors (the BoD) and the Group Executive Board, as well as to our internal and external auditors.

Voting rights, restrictions and representation

We place no restrictions on share ownership and voting rights. However, pursuant to general principles formulated by the BoD, nominee companies and fiduciaries, which normally represent a large number of individual shareholders and may hold an unlimited number of shares, have voting rights limited to a maximum of 5% of all issued UBS Group AG shares in order to avoid the risk of unknown shareholders with large stakes being entered in the share register. Securities clearing organizations, such as The Depository Trust Company in New York, are not subject to this 5% voting limit.

Shareholders can exercise their voting rights conferred by the shares only if they are registered in our share register with voting rights. To register, shareholders must confirm that they have acquired UBS Group AG shares in their own name and for their own account. Nominee companies and fiduciaries are required to sign an agreement confirming their willingness to disclose, upon our request, individual beneficial owners holding more than 0.3% of all issued UBS Group AG shares.

All shareholders registered with voting rights are entitled to participate in general meetings of shareholders. If they do not wish to attend in person, they may issue instructions to support, reject or abstain for each individual item on the meeting agenda, either by giving instructions to an independent proxy in accordance with article 14 of the Articles of Association (the AoA) or by appointing another registered shareholder of their choice to vote on their behalf. Alternatively, registered shareholders may issue their voting instructions to the independent proxy electronically through our online voting platform. Nominee companies normally submit the proxy material to the beneficial owners and forward the collected votes to the independent proxy.

→ **Refer to the article 14 of the Articles of Association of UBS Group AG for more information about the issuing of instructions to independent voting right representatives. The Articles of Association are available at *www.ubs.com/governance***

Statutory quorums

Motions, including those regarding the election and re-election of BoD members and the election of the auditors, are decided at a general meeting of shareholders by an absolute majority of the votes cast, excluding blank and invalid ballots. For the approval of certain specific issues, the Swiss Code of Obligations requires a positive vote from a two-thirds majority of the votes represented at the given general meeting of shareholders, and from the absolute majority of the par value of shares represented at the meeting. Such issues include the creation of shares with privileged voting rights, the introduction of restrictions on the transferability of registered shares, conditional and authorized capital increases, and restrictions or exclusions of shareholders' preemptive rights.

The AoA also require a two-thirds majority of votes represented for approval of any change to their provisions regarding the number of BoD members, any decision to remove one-quarter or more of the BoD members, and any modification to the provision establishing this qualified quorum.

Votes and elections are normally conducted electronically to ascertain the exact number of votes cast. Voting by a show of hands remains possible if a clear majority is predictable. Shareholders representing at least 3% of the votes represented may request that a vote or election be carried out electronically or by written ballot. In order to allow shareholders to clearly express their views on all individual topics, each item on the agenda is put to a vote separately and BoD members are elected on a person-by-person basis.

Convocation of general meetings of shareholders

The AGM must be held within six months of the close of the financial year (31 December) and normally takes place after the publication of the first quarter results. In 2020, the AGM will take place on 29 April.

Extraordinary General Meetings (EGMs) may be convened whenever the BoD or the auditors consider it necessary. Shareholders individually or jointly representing at least 10% of the share capital may at any time, including during an AGM, require, by way of a written statement, that an EGM be convened to address a specific issue they put forward.

A personal invitation including a detailed agenda is made available to every registered shareholder at least 20 days ahead of the scheduled general meeting. The agenda items are also published in the Swiss Official Gazette of Commerce, as well as at *www.ubs.com/agm.*

Placing of items on the agenda

Pursuant to our AoA, shareholders individually or jointly representing shares with an aggregate minimum par value of CHF 62,500 may submit proposals for matters to be placed on the agenda for consideration at the next general meeting of shareholders.

At the end of January, the invitation to submit such proposals is published in the Swiss Official Gazette of Commerce and at *www.ubs.com/agm.* Requests for items to be placed on the agenda must include the actual motions to be put forward, together with a short explanation. Such requests must be submitted to the BoD 50 days prior to the general meeting of shareholders, including a statement from the depository bank confirming the number of shares held by the requesting shareholder(s) and that these shares are blocked from sale until the end of the general meeting of shareholders. The BoD formulates opinions on the proposals, which are published together with the motions.

Registrations in the share register

Around 220,000 shareholders are directly registered in the UBS share register and some 145,000 US shareholders are registered via nominee companies.

The share register of UBS Group AG is an internal, non-public register subject to statutory confidentiality, secrecy, privacy and data protection regulations, which are imposed on UBS Group AG to protect shareholders registered therein. In general, third parties and shareholders have no inspection rights with regard to data related to other shareholders. Disclosure of such data is permitted only in specific and limited instances. In line with the Swiss Federal Act on Data Protection, the disclosure of personal data as defined thereunder is only allowed with the consent of the registered shareholder and in cases where there is an overriding private or public interest or if explicitly provided for by Swiss law. The law contains specific reporting duties, such as in relation to significant shareholders (refer to the "Significant shareholders" section of this report for more information). Disclosure may also be required or requested by a court of a competent jurisdiction, by any regulatory body that regulates the conduct of UBS Group AG or by other statutory provisions.

The general rules for entry into our Swiss share register with voting rights as described in article 5 of our AoA also apply before general meetings of shareholders. The same rules apply to our US transfer agent that operates the US share register for all UBS Group AG shares in a custodian account in the US. In order to determine the voting rights of each shareholder, our share register generally closes two business days prior to a general meeting of shareholders. Our independent proxy agent processes voting instructions from shareholders as long as technically possible, generally also until two business days before a general meeting of shareholders. Such technical closure of our share register only facilitates the determination of the actual voting rights of every shareholder that issued a voting instruction. Irrespective of the technical closure, shares that are registered in our share register are never immobilized and are freely tradable at any time, irrespective of any issued voting instructions.

Board of Directors

The Board of Directors (the BoD) of UBS Group AG, under the leadership of the Chairman of the BoD (the Chairman), consists of between 6 and 12 members as per our Articles of Association (the AoA).

The BoD decides on the strategy of the Group upon recommendation by the Group Chief Executive Officer (the Group CEO) and is responsible for the overall direction, supervision and control of the Group and its management, as well as for supervising compliance with applicable laws, rules and regulations. The BoD exercises oversight over UBS Group AG and its subsidiaries and is responsible for establishing a clear Group governance framework to provide effective steering and supervision of the Group, taking into account the material risks to which UBS Group AG and its subsidiaries are exposed. The BoD has ultimate responsibility for the success of the Group and for delivering sustainable shareholder value within a framework of prudent and effective controls. It also approves all financial statements for issue and appoints and removes all Group Executive Board (GEB) members.

The BoD of UBS AG, under the leadership of the Chairman, decides on the strategy of UBS AG upon recommendation by the President of the Executive Board and exercises the ultimate supervision on management. Its ultimate responsibility for the success of UBS AG is exercised subject to the parameters set by the Group.

Members of the Board of Directors

At the AGM on 2 May 2019, David Sidwell, Jeremy Anderson, Reto Francioni, Fred Hu, Julie G. Richardson, Isabelle Romy, Robert W. Scully, Beatrice Weder di Mauro and Dieter Wemmer were re-elected as members of the BoD. Michel Demaré and Ann F. Godbehere did not stand for re-election, as they both retired after serving for the BoD since 2009 and reaching their 10-year term limit; the biographies of Mr. Demaré and Ms. Godbehere can be found on pages 227 and 228 of the UBS Group AG Annual Report 2018 available under "Annual reporting" at *www.ubs.com/investors*. William C. Dudley and Jeanette Wong were elected for their first term. At the same time, Axel A. Weber was re-elected Chairman of the BoD, and Julie G. Richardson, Dieter Wemmer, Reto Francioni and Fred Hu were elected as members of the Compensation Committee. Additionally, ADB Altorfer Duss & Beilstein AG was elected as independent proxy agent. Following their election, the BoD appointed David Sidwell as Vice Chairman and Senior Independent Director of UBS Group AG.

On 10 January 2020, the BoD announced that Nathalie Rachou and Mark Hughes would be nominated for election to the UBS Group AG and UBS AG BoD at the forthcoming annual general meetings. Nathalie Rachou is a senior advisor at Rouvier Associés and Mark Hughes was Group Chief Risk Officer of Royal Bank of Canada until 2018. David Sidwell and Isabelle Romy will not stand for re-election, after completing terms of office on the BoD of twelve and eight years, respectively.

Article 31 of our AoA limits the number of mandates that members of the BoD may hold outside the UBS Group to four board memberships in listed companies and five additional mandates in non-listed companies. Mandates in companies that are controlled by us or that control us are not subject to this limitation. In addition, members of the BoD may hold no more than 10 mandates at UBS's request and 10 mandates in associations, charitable organizations, foundations, trusts, and employee welfare foundations. On 31 December 2019, no member of the BoD reached the thresholds described in article 31 of our AoA.

The following biographies provide information on the BoD members and the Group Company Secretary. In addition to information on mandates, the biographies include information on memberships or other activities or functions, as required by the SIX Swiss Exchange Corporate Governance Directive.

No member of the BoD currently carries out or has carried out over the past three years operational management tasks within the Group; all members of the BoD are therefore non-executive members.

All members of UBS Group AG's BoD are also members of UBS AG's BoD, and committee membership is the same for both entities. The Senior Independent Director function relates only to UBS Group AG.

In 2019, UBS AG's BoD had three permanent committees: the Audit Committee, the Compensation Committee and the Risk Committee. In addition to the aforementioned permanent committees, UBS Group AG also had the Corporate Culture and Responsibility Committee, as well as the Governance and Nominating Committee.

Axel A. Weber

Chairman, non-executive member of the Board

Year of initial election
UBS: 2012 (UBS Group AG: 2014, UBS AG: 2012)

Year of birth l Nationality
1957 l German

Professional history and education
Axel A. Weber was elected to the Board of Directors (BoD) of UBS AG at the 2012 AGM and of UBS Group AG in 2014. He is Chairman of the BoD of both UBS AG and UBS Group AG. He has chaired the Governance and Nominating Committee since 2012 and became Chairperson of the Corporate Culture and Responsibility Committee in 2013. Mr. Weber was President of the German Bundesbank between 2004 and 2011, during which time he also served as a member of the Governing Council of the European Central Bank, as a member of the Board of Directors of the Bank for International Settlements, as German governor of the International Monetary Fund, and as a member of the G7 and G20 Ministers and Governors. He was a member of the steering committees of the European Systemic Risk Board in 2011 and the Financial Stability Board from 2010 to 2011. From 2002 to 2004, Mr. Weber served as a member of the German Council of Economic Experts. His academic career encompasses professorships in international economics, monetary economics and economic theory at the universities of Cologne, Frankfurt am Main, Bonn and Chicago. Mr. Weber holds a master's degree in economics from the University of Constance and a PhD in economics from the University of Siegen, where he also received his habilitation. He holds honorary doctorates from the universities of Duisburg-Essen and Constance.

Other activities and functions
- Member of the Board of the Swiss Bankers Association
- Member of the Board of Trustees of Avenir Suisse
- Member of the Board of the Swiss Finance Council
- Chairman of the Board of the Institute of International Finance
- Member of the European Financial Services Round Table
- Member of the European Banking Group
- Member of the International Advisory Councils of the China Banking and Insurance Regulatory Commission and China Securities Regulatory Commission
- Member of the International Advisory Panel, Monetary Authority of Singapore
- Member of the Group of Thirty, Washington, DC
- Chairman of the Board of Trustees of DIW Berlin
- Member of the Advisory Board of the Department of Economics, University of Zurich
- Member of the Trilateral Commission

Key competencies
- Finance, audit, accounting
- Risk management
- Regulatory authority, central bank
- ESG (environment, social and governance)

Leadership experience
- CEO, Chairman

David Sidwell

Vice Chairman, Senior Independent Director,
non-executive member of the Board

Year of initial election
UBS: 2008 (UBS Group AG: 2014, UBS AG: 2008)

Year of birth I Nationality
1953 I American (US) and British

Professional history and education
David Sidwell was elected to the BoD of UBS AG at the 2008 AGM and of UBS Group AG in 2014. He is Vice Chairman and Senior Independent Director. He has chaired the Risk Committee since 2008 and has been a member of the Governance and Nominating Committee since 2011. Mr. Sidwell was Executive Vice President and CFO of Morgan Stanley between 2004 and 2007. Before joining Morgan Stanley, he worked for JPMorgan Chase & Co., where, in his 20 years of service, he held a number of different positions, including controller and, from 2000 to 2004, CFO of the Investment Bank. Prior to this, he was with Price Waterhouse in both London and New York. Mr. Sidwell graduated from Cambridge University and qualified as a chartered accountant with the Institute of Chartered Accountants in England and Wales.

Other activities and functions
- Senior advisor at Oliver Wyman, New York
- Member of the Board of Chubb Limited
- Member of the Board of GAVI Alliance
- Member of the Board of Village Care, New York

Key competencies
- Banking (wealth management, asset management, personal and corporate banking; insurance)
- Investment banking, capital markets
- Finance, audit, accounting
- Risk management

Leadership experience
- Executive board leadership

Jeremy Anderson

Non-executive member of the Board

Year of initial election
UBS: 2018

Year of birth I Nationality
1958 I British

Professional history and education
Jeremy Anderson was elected to the BoD of UBS AG and UBS Group AG at the 2018 AGM. He has chaired the Audit Committee and has been a member of the Corporate Culture and Responsibility Committee since 2018. Since 2019, he has been a member of the Governance and Nominating Committee. He was Chairman of Global Financial Services at KPMG International from 2010 to 2017. He has spent over 30 years working with the banking and insurance industry in an advisory capacity, covering a broad range of topics, including strategy, audit and risk management, technology-enabled transformation, mergers and bank restructuring. Mr. Anderson was the founding sponsor of KPMG's Global Fintech Network in 2014 and is a regular participant at FinTech events across Europe, the US and Asia. He joined KPMG International in 2004 and was Head of Financial Services KPMG Europe from 2006 to 2011 as well as Head of Clients and Markets KPMG Europe from 2008 to 2011. From 2004 to 2008 he was in charge of its UK Financial Services Practice. Prior to that, he served as a member of the Group Management Board of Atos Origin and as Head of its UK operations after Atos acquired KPMG Consulting UK in 2002. In this capacity he managed Atos' consulting, systems integration and IT outsourcing services in the UK. Mr. Anderson joined KPMG's UK consulting business in 1985 and led the firm as CEO from 2000 to 2002, having previously been a partner in its financial services business. He started his career as a software developer with Triad Computing Systems in 1980. Mr. Anderson holds a bachelor's degree in economics from University College London.

Other activities and functions
- Member of the Board of Prudential plc
- Trustee of the UK's Productivity Leadership Group
- Trustee of Kingham Hill Trust
- Trustee of St. Helen's Bishopsgate

Key competencies
- Banking (wealth management, asset management, personal and corporate banking; insurance)
- Finance, audit, accounting
- Risk management
- Technology, cybersecurity

Leadership experience
- Executive board leadership

William C. Dudley

Non-executive member of the Board

Year of initial election
UBS: 2019

Year of birth | Nationality
1953 | American (US)

Professional history and education
William C. Dudley was elected to the BoD of UBS AG and UBS Group AG at the 2019 AGM. He has been a member of the Corporate Culture and Responsibility Committee and of the Risk Committee since 2019. Currently, Mr. Dudley is a Senior Research Scholar at the Griswold Center for Economic Policy Studies at Princeton University. He became CEO of the Federal Reserve Bank of New York (the NY Fed) in 2009 and held that position until 2018. During this time, his focus areas included cultural behavior and social and governance topics in the financial world. As CEO, he served as the vice chairman and a permanent member of the Federal Open Market Committee. Previously, Mr. Dudley served as Executive Vice President of the Markets Group at the NY Fed and Head of the Markets Group from 2007 to 2009. Prior to his time with the NY Fed, Mr. Dudley joined Goldman Sachs in 1986 and held several senior management positions. He was a Partner and Managing Director and for a decade the Chief US Economist. In 2012, Mr. Dudley was appointed chairman of the Committee on the Global Financial System of the Bank for International Settlements (BIS). Prior to that, he served as chairman of the former Committee on Payment and Settlement Systems of the BIS from 2009 to 2012. He was a member of the Board of Directors of the BIS from 2009 to 2018. He holds a bachelor's degree from New College of Florida and received his doctorate in economics from the University of California, Berkeley in 1982.

Other activities and functions
- Member of the Group of Thirty
- Member of the Council on Foreign Relations
- Member of the Bretton Woods Committee's Advisory Council

Key competencies
- Investment banking, capital markets
- Risk management
- Regulatory authority central bank
- ESG (environment, social and governance)

Leadership experience
- CEO, Chairman

Reto Francioni

Non-executive member of the Board

Year of initial election
UBS: 2013 (UBS Group AG: 2014, UBS AG: 2013)

Year of birth | Nationality
1955 | Swiss

Professional history and education
Reto Francioni was elected to the BoD of UBS AG at the 2013 AGM and of UBS Group AG in 2014. He has been a member of the Risk Committee since 2015 and of the Compensation Committee since 2019. He was CEO of Deutsche Börse AG from 2005 to 2015. Since 2006, he has been a professor of Financial Market Research at the University of Basel. From 2002 to 2005, Mr. Francioni was Chairman of the Supervisory Board and President of the SWX Group, Zurich, placing him at the heart of digitalization within the industry. Mr. Francioni was Co-CEO and Spokesman for the Board of Directors of Consors AG, Nuremberg, from 2000 to 2002. Between 1993 and 2000, he held various management positions at Deutsche Börse AG, including that of Deputy CEO from 1999 to 2000. There he drove a fundamental transformation to shape it as a world leader in technology. From 1992 to 1993, he served in the corporate finance division of Hoffmann-La Roche, Basel. Prior to this, he was on the Executive Board of Association Tripartite Bourses for several years. From 1985 to 1988, he worked for Credit Suisse, holding positions in the equity sales and legal departments. He started his professional career in 1981 in the commerce division of Union Bank of Switzerland. Mr. Francioni completed his law degree at the University of Zurich in 1981 and earned his PhD from that same university in 1987.

Other activities and functions
- Member of the Board of Coca-Cola HBC AG (Senior Independent Non-Executive Director, chair of the nomination committee)
- Chairman of the Board of Swiss International Air Lines AG
- Member of the Board of MedTech Innovation Partners AG
- Executive Director and member of myTAMAR GmbH

Key competencies
- Investment banking, capital markets
- Risk management
- Human resources management, including compensation
- Technology, cybersecurity

Leadership experience
- CEO, Chairman

Fred Hu

Non-executive member of the Board

Year of initial election
UBS: 2018

Year of birth I Nationality
1963 I Chinese

Professional history and education
Fred Hu was elected to the BoD of UBS AG and UBS Group AG at the 2018 AGM. He has been a member of the Compensation Committee since 2019. Mr. Hu has been chairman of Primavera Capital Group, a China-based global investment firm, since 2010. Through his numerous investments in leading technology companies over the years, he has obtained profound knowledge in the areas of mobile internet, digitalization and cybersecurity. Prior to founding Primavera, Mr. Hu held various senior positions at Goldman Sachs from 1997 to 2010, where he was instrumental in building the firm's franchise in the region. He was a Partner and chairman of Greater China from 2008 to 2010 and a Partner and Co-Head of Investment Banking China from 2004 to 2008. Before that, he held the position of Goldman Sachs' Chief Economist. From 1991 to 1996, he served as an economist at the International Monetary Fund in Washington, DC, and after that was Co-Director of the National Center for Economic Research and a professor at Tsinghua University. Mr. Hu holds a master's in engineering science from Tsinghua University, and a master's and a PhD in economics from Harvard University.

Other activities and functions
- Non-executive Chairman of the Board of Yum China Holdings (chair of the nomination and governance committee)
- Member of the Board of ICBC
- Member of the Board of Hong Kong Exchanges and Clearing Ltd.
- Member of the Board of China Asset Management
- Member of the Board of Minsheng Financial Leasing Co.
- Trustee of the China Medical Board
- Governor of the Chinese International School in Hong Kong
- Co-Chairman of the Nature Conservancy Asia Pacific Council
- Director and member of the Executive Committee of China Venture Capital and Private Equity Association Ltd.
- Member of the Global Advisory Board of the Council on Foreign Relations

Key competencies
- Investment banking, capital markets
- Risk management
- Technology, cybersecurity
- Regulatory authority, central bank

Leadership experience
- CEO, Chairman

Julie G. Richardson

Non-executive member of the Board

Year of initial election
UBS: 2017

Year of birth I Nationality
1963 I American (US)

Professional history and education
Julie G. Richardson was elected to the BoD of UBS AG and UBS Group AG at the 2017 AGM. She has been a member of the Compensation Committee since 2018 and its Chairperson since 2019. She also has been a member of the Risk Committee since 2017 and of the Governance and Nominating Committee since 2019. From 2003 to 2012, Ms. Richardson was a Partner and Head of the New York Office of Providence Equity Partners, a global private equity firm specializing in equity investments in media, communications, education and information companies. She acted as a senior advisor to the partnership until 2014. From 1998 to 2003, Ms. Richardson served as Vice Chairman of the Investment Banking division of JPMorgan Chase & Co. and Head of its Global Telecommunications, Media and Technology group. Throughout her career, she has spent significant time with both incumbent and new technology companies, including being a board member of a digital knowledge management company since 2015. After graduating, she started with Merrill Lynch in 1986, where she worked until 1998, in her last position as Managing Director Media and Communications Investment Banking. Ms. Richardson graduated from the University of Wisconsin-Madison with a bachelor's degree in business administration.

Other activities and functions
- Member of the Board of Yext (chair of the audit committee)
- Member of the Board of Vereit, Inc. (chair of the compensation committee)
- Member of the Board of Datadog (chair of the audit committee)
- Member of the Board of The Hartford Financial Services Group, Inc (resignation effective 1 April 2020)

Key competencies
- Investment banking, capital markets
- Risk management
- Human resources management, including compensation
- Technology, cybersecurity

Isabelle Romy

Non-executive member of the Board

Year of initial election
UBS: 2012 (UBS Group AG: 2014, UBS AG: 2012)

Year of birth I Nationality
1965 I Swiss

Professional history and education
Isabelle Romy was elected to the BoD of UBS AG at the 2012 AGM and of UBS Group AG in 2014. She has been a member of the Audit Committee and of the Governance and Nominating Committee since 2012. Ms. Romy is a partner at Froriep Legal AG, a large Swiss business law firm. From 1995 to 2012, she worked for another major Swiss law firm based in Zurich, where she was a partner from 2003 to 2012. Her legal practice includes litigation and arbitration in cross-border cases. Ms. Romy has been a professor at the University of Fribourg and at the Federal Institute of Technology in Lausanne (EPFL) since 1996. Between 2003 and 2008, she served as a deputy judge at the Swiss Federal Supreme Court. From 1999 to 2006, she was a member of the Ethics Commission at the EPFL. Ms. Romy earned her doctorate in law (Dr. iur.) at the University of Lausanne in 1990 and has been a qualified attorney-at-law admitted to the bar since 1991. From 1992 to 1994, she was a visiting scholar at Boalt Hall School of Law, University of California, Berkeley, and completed her professorial thesis at the University of Fribourg in 1996.

Other activities and functions
- Member of the Board of Froriep Legal AG
- Chair of the Board of Central Real Estate Holding AG
- Chair of the Board of Central Real Estate Basel AG
- Vice Chairman of the Sanction Commission of the SIX Swiss Exchange
- Member of the Fundraising Committee of the Swiss National Committee for UNICEF
- Member of the Supervisory Board of the CAS program Financial Regulation of the University of Bern and University of Geneva

Key competencies
- Finance, audit, accounting
- Legal, compliance
- Regulatory authority, central bank
- ESG (environment, social and governance)

Robert W. Scully

Non-executive member of the Board

Year of initial election
UBS: 2016

Year of birth I Nationality
1950 I American (US)

Professional history and education
Robert W. Scully was elected to the BoD of UBS AG and UBS Group AG at the 2016 AGM. He has been a member of the Risk Committee since 2016. Mr. Scully served as a member of the Office of the Chairman of Morgan Stanley from 2007 to 2009 and was its Co-President responsible for Asset Management, Discover Credit Cards from 2006 to 2007. Prior to assuming the position of Co-President, he was Chairman of Global Capital Markets from 2004 to 2006, Vice Chairman of Investment Banking from 1999 to 2006, and Managing Director from 1996 to 2009. Mr. Scully was Managing Director at Lehman Brothers from 1993 to 1996, having worked for Scully Brothers Foss & Wight from 1989 to 1993 as Managing Director and for Salomon Brothers in Investment Banking and Capital Markets from 1980 to 1989, where he became a Managing Director in 1984. He began his career in the banking industry with Chase Manhattan Bank in 1972 and then worked as an investment banker for Blyth Eastman Dillon & Co. from 1977 to 1980. Mr. Scully graduated from Princeton University in 1972 with a bachelor's degree in psychology and holds an MBA from Harvard University.

Other activities and functions
- Member of the Board of Chubb Limited (chair of the audit committee)
- Member of the Board of Zoetis, Inc.
- Member of the Board of KKR & Co. Inc.
- Member of the Board of Teach For All

Key competencies
- Banking (wealth management, asset management, personal and corporate banking; insurance)
- Investment banking, capital markets
- Finance, audit, accounting
- Risk management

Leadership experience
- Executive board leadership

Beatrice Weder di Mauro

Non-executive member of the Board

Year of initial election
UBS: 2012 (UBS Group AG: 2014, UBS AG: 2012)

Year of birth I Nationality
1965 I Swiss and Italian

Professional history and education
Beatrice Weder di Mauro was elected to the BoD of UBS AG at the 2012 AGM and of UBS Group AG in 2014. She has been a member of the Audit Committee since 2012 and became a member of the Corporate Culture and Responsibility Committee in 2017. She was a member of the Risk Committee from 2013 to 2017. Since 2019, Ms. Weder di Mauro has been a professor of international economics at the Graduate Institute Geneva (IHEID) and since 2018 has been President of the Centre for Economic Policy Research in London. Since 2016, she has been a research professor and distinguished fellow at the Emerging Markets Institute at INSEAD in Singapore. From 2001 to 2018, she held the Chair of International Macroeconomics at the Johannes Gutenberg University of Mainz and was a member of the German Council of Economic Experts from 2004 to 2012. She held visiting positions at the International Monetary Fund (IMF) in Washington, DC, at the National Bureau of Economic Research in Cambridge, MA, and at the United Nations University in Tokyo. Prior to that, she worked as an economist at the IMF and the World Bank in Washington, DC. She received a PhD and a habilitation in economics from the University of Basel. Since 2005, Ms. Weder di Mauro has served as an independent director on the boards of globally leading companies in development finance, pharmaceuticals, technology and insurance.

Other activities and functions
- Member of the Supervisory Board of Robert Bosch GmbH
- Member of the Board of Bombardier Inc.
- Member of the Foundation Board of the International Center for Monetary and Banking Studies (ICMB)

Key competencies
- Finance, audit, accounting
- Risk management
- Regulatory authority, central bank
- ESG (environment, social and governance)

Dieter Wemmer

Non-executive member of the Board

Year of initial election
UBS: 2016

Year of birth I Nationality
1957 I Swiss and German

Professional history and education
Dieter Wemmer was elected to the BoD of UBS AG and UBS Group AG at the 2016 AGM. He has been a member of the Compensation Committee since 2018 and of the Audit Committee since 2019. Mr. Wemmer was Chief Financial Officer (CFO) of Allianz SE from 2013 to 2017. He joined Allianz SE in 2012 as a member of the Board of Management, responsible for the insurance business in France, Benelux, Italy, Greece and Turkey and for the "Global Property & Casualty" Center of Competence. He was CFO of Zurich Insurance Group from 2007 to 2011. From 2010 to 2011, he was Zurich's Regional Chairman of Europe. Prior to that, Mr. Wemmer was CEO of the Europe General Insurance business and member of Zurich's Group Executive Committee from 2004 to 2007. He held various other management positions in the Zurich Group, such as Chief Operating Officer of the Europe General Insurance business from 2003 to 2004, Head of Mergers and Acquisitions from 1999 to 2003 and Head of Financial Controlling from 1997 to 1999. Mr. Wemmer began his career in the insurance industry within the Zurich Group in 1986 in Cologne, after graduating from the University of Cologne with a master's degree and acquiring his doctorate in mathematics in 1985.

Other activities and functions
- Member of the Board of Ørsted A/S (chair of the audit and risk committee)
- Member of the Berlin Center of Corporate Governance

Key competencies
- Banking (wealth management, asset management, personal and corporate banking; insurance)
- Investment banking, capital markets
- Finance, audit, accounting
- Risk management

Leadership experience
- Executive board leadership

Jeanette Wong

Non-executive member of the Board

Year of initial election
UBS: 2019

Year of birth l Nationality
1960 l Singaporean

Professional history and education
Jeanette Wong was elected to the BoD of UBS AG and UBS Group AG at the 2019 AGM. She has been a member of the Audit Committee since 2019. Ms. Wong was Group Executive responsible for the Institutional Banking business at the Singapore-based DBS Group from 2008 to March 2019, encompassing Corporate Banking, Global Transaction Services, Strategic Advisory and Mergers & Acquisitions. Previously, she served as Chief Financial Officer of the DBS Group between 2003 and 2008. Ms. Wong has spent more than 30 years working in different senior management roles within the financial industry in Singapore. She started her career in 1982 with positions at Banque Paribas and Citibank, before helping to build up JP Morgan's Asia and emerging markets business over a sixteen-year career with the firm. She holds an MBA from the University of Chicago and a bachelor's in business administration from the National University of Singapore.

Other activities and functions
- Member of the Board of Essilor International / EssilorLuxottica
- Member of the Board of Jurong Town Corporation
- Member of the Board of PSA International
- Member of the Board of FFMC Holdings Pte. Ltd. and of Fullerton Fund Management Company Ltd.
- Member of the Management Advisory Board of NUS Business School
- Member of the Global Advisory Board, Asia, University of Chicago Booth School of Business
- Member of the Securities Industry Council

Key competencies
- Banking (wealth management, asset management, personal and corporate banking; insurance)
- Investment banking, capital markets
- Finance, audit, accounting
- ESG (environment, social and governance)

Leadership experience
- Executive board leadership

Markus Baumann

Group Company Secretary

Year of birth l Nationality
1963 l Swiss

Professional history and education
Markus Baumann was appointed Group Company Secretary of UBS Group AG and Company Secretary of UBS AG by the BoD in 2017. He has been with UBS for 40 years and has held a broad range of leadership roles across the Group in Switzerland, the US and Japan, including Chief of Staff to the Chairman of the BoD since 2015 and Chief Operating Officer of Group Internal Audit from 2006 to 2015. Before this, he worked as Chief Operating Officer EMEA for UBS Asset Management. Earlier in his career, Mr. Baumann worked in Japan for four years as Corporate Planning Officer and assistant to the CEO. He joined UBS in 1979 as a banking apprentice, covering the full range of universal banking activities. Mr. Baumann holds an MBA from INSEAD Fontainebleau and a Swiss Federal Diploma as a Business Analyst.

Elections and terms of office

Shareholders annually elect each member of the BoD individually, as well as the Chairman and the members of the Compensation Committee, based on proposals from the BoD.

As set out in the Organization Regulations, BoD members are normally expected to serve for a minimum of three years. No BoD member may serve for more than 10 consecutive terms of office. In exceptional circumstances, the BoD may extend this limit.

→ **Refer to "Skills, expertise and training of the Board of Directors" in this section for more information**

Organizational principles and structure

Following each AGM, the BoD meets to appoint one or more Vice Chairmen, a Senior Independent Director, the BoD committee members (other than the Compensation Committee members, who are elected by the shareholders) and the respective committee Chairpersons. At the same meeting, the BoD appoints a Group Company Secretary, who acts as secretary to the BoD and its committees.

According to the Articles of Association and the Organization Regulations, the BoD meets as often as business requires, but it must meet at least six times a year. During 2019, a total of 23 BoD meetings and calls were held, 15 of which were attended by GEB members. Average participation in the BoD meetings and calls was 98%. In addition to the BoD meetings attended by GEB members, the Group CEO attended some of the meetings of the BoD without GEB participation. The average duration of the meetings and calls was 145 minutes. In 2019, the frequency and length of the combined meetings were the same for UBS Group AG and UBS AG. Additionally, eight ad hoc calls were held, two of which were without GEB members. Furthermore, a two-day crisis management and simulation exercise was held.

At every BoD meeting, each committee Chairperson provides the BoD with an update on current activities of his or her committee as well as important committee issues.

In response to the growing importance of legal entity governance, standalone meetings of the UBS AG BoD were held. In 2019, four UBS AG meetings were held with members of the Executive Board in attendance. Standalone meetings are held on a regular basis to discuss and agree on legal entity governance and other topics related to UBS AG. Furthermore, we enhanced the coordination and exchange of information between UBS Group AG and its significant group entities. Joint meetings between the Group BoD and the boards of directors of all significant group entities have been introduced. In addition, a two-day annual workshop attended by all independent members of the boards of the Group and significant group entities was held, for the third time, to strengthen entity governance.

Performance assessment

An external assessment of the effectiveness of the BoD was started at the end of 2018 and concluded in May 2019. This external review was commissioned in line with the regular schedule of performing an independent external assessment every third year. In each year when there is no independent external assessment, a thorough self-assessment is completed at the level of the BoD, while the committees perform self-assessments every year. All BoD members, the Group CEO, selected members of the GEB, the Head Group Internal Audit and lead audit partner were interviewed as part of the external review. The external appraisers also attended BoD meetings and selected committee meetings as observers and reviewed governance-related documentation.

The results of the in-depth external assessment concluded that the BoD and its committees were operating effectively, in line with best practice and best in class in comparison with leading European peers. The final report did not raise any material issues, but did make a number of recommendations for consideration by the BoD. These led to minor adjustments in the BoD agenda and served as a source for the definition of the BoD's priorities for 2019/2020. Areas of particular focus for the BoD were strategy, growth and value creation, as well as succession planning. Furthermore, a particular focus remained on the oversight of the regulatory, risk and legal issues as well as on digital transformation. Environment, social and governance topics, in particular sustainability and the continued emphasis on cultural values were other key priorities.

BoD Committees

The committees listed on the following pages assist the BoD in the performance of its responsibilities. These committees and their charters are described in the Organization Regulations, published at *www.ubs.com/governance*. The committees meet as often as their business requires, but at least four times a year each for the Audit Committee, the Risk Committee and the Compensation Committee, and twice a year each for the Corporate Culture and Responsibility Committee and the Governance and Nominating Committee. Topics of common interest or affecting more than one committee are discussed at joint committee meetings. The Audit Committee and the Risk Committee hold at least four joint meetings a year.

During 2019, a total of ten joint committee meetings were held for UBS Group AG (nine joint committee meetings were held for UBS AG). The Risk Committee held one meeting with the Compensation Committee, one with the Corporate Culture and Responsibility Committee, and eight with the Audit Committee.

Board of Directors

Members in 2019	Meeting attendance without GEB[3]		Meeting and call attendance with GEB[4]	
Axel A. Weber, Chairman	8/8	100%	15/15	100%
Michel Demaré[1]	2/2	100%	5/5	100%
David Sidwell	8/8	100%	15/15	100%
Jeremy Anderson	8/8	100%	15/15	100%
William C. Dudley[2]	6/6	100%	8/10	80%
Reto Francioni	8/8	100%	15/15	100%
Ann F. Godbehere[1]	2/2	100%	5/5	100%
Fred Hu	7/8	88%	13/15	87%
Julie G. Richardson	8/8	100%	15/15	100%
Isabelle Romy	8/8	100%	15/15	100%
Robert W. Scully	8/8	100%	15/15	100%
Beatrice Weder di Mauro	8/8	100%	15/15	100%
Dieter Wemmer	8/8	100%	15/15	100%
Jeanette Wong[2]	6/6	100%	10/10	100%

Key responsibilities include:

The Board has ultimate responsibility for the success of the Group and for delivering sustainable shareholder value within a framework of prudent and effective controls. It decides on the Group's strategy and the necessary financial and human resources upon recommendation of the Group CEO and sets the Group's values and standards to ensure that its obligations to shareholders and other stakeholders are met.

→ **Refer to the Organization Regulations of UBS Group AG, available at www.ubs.com/governance, for more information**

1 Michel Demaré and Ann F. Godbehere did not stand for re-election at the 2019 AGM. Indicated are their attended and total meetings up to the 2019 AGM. 2 William C. Dudley and Jeanette Wong were elected to the Board at the 2019 AGM. Indicated are their attended and total meetings after their election. 3 Additionally, two ad hoc calls took place in 2019. 4 Additionally, six ad hoc calls took place in 2019.

Audit Committee

The Audit Committee consisted of five BoD members throughout 2019, all of whom were determined by the BoD to be fully independent. As a group, members of the Audit Committee must have the necessary qualifications and skills to perform all of their duties and together must possess financial literacy and experience in banking and risk management.

The Audit Committee itself does not perform audits but oversees the work of the external auditors, Ernst & Young Ltd, who in turn are responsible for auditing UBS Group AG's and UBS AG's annual financial statements and for reviewing the quarterly financial statements.

In particular, the Audit Committee monitors the integrity of the financial statements of UBS Group AG and UBS AG and any announcements related to financial performance, and reviews significant financial reporting judgments contained in them, before recommending their approval to the BoD or proposing any adjustments the Audit Committee considers appropriate.

The Audit Committee oversees the relationship with and assesses the qualifications, expertise, effectiveness, independence and performance of the external auditors and their lead audit partner, and supports the BoD in reaching a decision in relation to the appointment, reappointment or dismissal of the external auditors and to the rotation of the lead audit partner. The BoD then submits these proposals to the shareholders for approval at the AGM.

During 2019, the Audit Committee held eight committee meetings and eight calls with a participation rate of 98%. The average duration of each of the meetings and calls was approximately 150 minutes. In 2019, for both UBS Group AG and UBS AG, the frequency and length of meetings were the same. All of the meetings and calls of the Audit Committee were attended by the Group Chief Financial Officer as well as the Group Controller and Chief Accounting Officer. In 2019, the Chairperson and the committee met on a regular basis with core supervisory authorities.

All Audit Committee members have accounting or related financial management expertise and, in compliance with the rules established pursuant to the US Sarbanes-Oxley Act of 2002, at least one member qualifies as a financial expert. The New York Stock Exchange (the NYSE) listing standards on corporate governance and Rule 10A-3 under the US Securities Exchange Act set more stringent independence requirements for members of audit committees than for the other members of the BoD. Throughout 2019, all members of the Audit Committee, in addition to satisfying our independence criteria, satisfied these requirements, in that they did not receive, directly or indirectly, any consulting, advisory or compensatory fees from any member of the Group other than in their capacity as a BoD member, did not hold, directly or indirectly, UBS Group AG shares in excess of 5% of the outstanding capital, and did not serve on the audit committees of more than two other public companies.

Audit Committee

Members in 2019	Meeting and call attendance	
Jeremy Anderson (Chairperson)	16/16	100%
Michel Demaré[1]	8/8	100%
Ann F. Godbehere[1]	8/8	100%
Isabelle Romy	16/16	100%
Beatrice Weder di Mauro	14/16	88%
Dieter Wemmer[2]	8/8	100%
Jeanette Wong[2]	8/8	100%

Key responsibilities include:

The function of the Audit Committee is to support the Board in fulfilling its oversight duty relating to financial reporting and internal controls over financial reporting, the effectiveness of the external and internal audit functions, and the effectiveness of whistleblowing procedures.

Management is responsible for the preparation, presentation and integrity of the financial statements, while the external auditors are responsible for auditing financial statements. The Audit Committee's responsibility is one of oversight and review.

→ **Refer to the Organization Regulations of UBS Group AG, available at www.ubs.com/governance, for more information**

1 Michel Demaré and Ann F. Godbehere did not stand for re-election at the 2019 AGM; indicated are their attended and total meetings up to the 2019 AGM. 2 Following the 2019 AGM, Dieter Wemmer and Jeanette Wong became members of this committee; indicated are their attended and total meetings after their election.

Compensation Committee

The Compensation Committee consisted of four independent BoD members throughout 2019 as indicated in the table below. In addition to the key responsibilities indicated in the same table, the Compensation Committee reviews the compensation disclosures included in this report.

During 2019, the Compensation Committee held six meetings and two calls with a participation rate of 97%. The average duration of each of the meetings and calls was approximately 135 minutes. All meetings were held in the presence of the Chairman and most were attended by the Group CEO and external advisors. In 2019, the Chairperson met on a regular basis with core supervisory authorities.

→ **Refer to "Board of Directors compensation" in the "Compensation" section on page 273 of this report for more information about the Compensation Committee's decision-making procedures**

Corporate Culture and Responsibility Committee

Throughout 2019, the Corporate Culture and Responsibility Committee consisted of the Chairperson and three independent BoD members as listed in the table below. The Group CEO and the Head UBS in society are permanent guests of the Corporate Culture and Responsibility Committee, while senior regional representatives (chairmen or Presidents) attended one of the meetings as guests. During 2019, six meetings were held, with an average participation rate of 96%. The average duration of each of the meetings was approximately 100 minutes.

Compensation Committee

Members in 2019	Meeting and call attendance		Key responsibilities include:
Ann F. Godbehere (Chairperson)[1]	2/2	100%	The Compensation Committee is responsible for:
[illegible] (Chairperson)	8/8	100%	(i) supporting the Board in its duties to set guidelines on compensation and benefits;
Michel Demaré[1]	2/2	100%	(ii) approving the total compensation for the Chairman and the non-independent Board members;
Reto Francioni[2]	6/6	100%	(iii) establishing, together with the Chairman, financial and non-financial performance targets for the Group CEO and reviewing, upon the recommendation from the Group CEO, financial and non-financial performance targets for the other GEB members;
Fred Hu[2]	5/6	83%	(iv) reviewing, in consultation with the Chairman, the performance of the Group CEO in meeting agreed targets, as well as informing the Board of the individual performance assessments of the GEB members;
Dieter Wemmer	8/8	100%	(v) proposing, together with the Chairman, total individual compensation for the independent Board members and Group CEO for approval by the Board; and
			(vi) proposing to the Board for approval, upon recommendation from the Group CEO, the total individual compensation for GEB members

→ **Refer to the Organization Regulations of UBS Group AG, available at www.ubs.com/governance, for more information**

1 Michel Demaré and Ann F. Godbehere did not stand for re-election at the 2019 AGM; indicated are their attended and total meetings up to the 2019 AGM. 2 Reto Francioni and Fred Hu were elected to this committee at the 2019 AGM; indicated are their attended and total meetings after their election.

Corporate Culture and Responsibility Committee

Members in 2019	Meeting attendance		Key responsibilities include:
Axel A. Weber (Chairperson)	6/6	100%	The Corporate Culture and Responsibility Committee supports the Board in its duties to safeguard and advance the Group's reputation for responsible and sustainable conduct. Its function is forward-looking in that it monitors and reviews societal trends and transformational developments and assesses their potential relevance for the Group.
Jeremy Anderson	6/6	100%	In undertaking this assessment, it reviews stakeholder concerns and expectations pertaining to the societal performance of UBS and to the development of its corporate culture. The Corporate Culture and Responsibility Committee's function also encompasses the monitoring of the current state and implementation of the programs and initiatives within the Group pertaining to corporate culture and corporate responsibility
William C. Dudley[1]	3/4	75%	
Reto Francioni[2]	2/2	100%	
Beatrice Weder di Mauro	6/6	100%	

→ **Refer to the Organization Regulations of UBS Group AG, available at www.ubs.com/governance, for more information**

1 Following the 2019 AGM, William C. Dudley became a member of this committee; indicated are his attended and total meetings after his election. 2 After the 2019 AGM, Reto Francioni was no longer member of this committee; instead he was elected member of the Compensation Committee; indicated are his attended and total meetings up to the 2019 AGM.

Governance and Nominating Committee

In 2019, the Governance and Nominating Committee consisted of the Chairperson and three independent members as listed in the table below; after the AGM, there were four independent members. During 2019, nine meetings were held with a participation rate of 100%. The average duration of each of the meetings was approximately 130 minutes and, additionally, three ad hoc calls took place. The Group CEO attended all meetings.

Risk Committee

In 2019, the Risk Committee comprised five independent BoD members as listed in the table below. During 2019, the Risk Committee held nine committee meetings and six calls with a participation rate of 100%. The average duration of each of the meetings and calls was approximately 190 minutes. In 2019, the frequency and length of the meetings were the same for both UBS Group AG and UBS AG. Usually, the Group CEO, the Group CFO, the Group Chief Risk Officer and the Group General Counsel attended the meetings and calls. In 2019, the Chairperson and the committee met on a regular basis with core supervisory authorities.

Ad hoc committees

The Special Committee and the Strategy Committee are two ad hoc committees that have a standing composition and that hold meetings as and when required.

The Special Committee is composed of four BoD members and its primary purpose is to oversee activities related to key litigation and investigation matters, review management's respective proposals and submit recommendations for decision to the BoD. For 2019, the key focus was the French cross-border matter, following the first court verdict in February 2019. Jeremy Anderson chaired the Special Committee, with Julie G. Richardson, David Sidwell and Axel A. Weber as additional members. The Group CEO was a permanent guest. During 2019, a half-day workshop, two meetings and three calls were held. The frequency and length of the meetings were the same for both UBS Group AG and UBS AG.

The Strategy Committee is composed of four BoD members and its primary purpose is to support management and the BoD with regard to the assessment of strategic considerations, as well as to assist the planning of the annual strategy meetings for the BoD and the GEB. The committee submits recommendations for decision to the BoD. Axel A. Weber chaired the Strategy Committee, with Fred Hu, Robert W. Scully and Dieter Wemmer as additional members. The Group CEO, the Group CFO and the Head of Strategy were permanent guests. During 2019, two meetings and six calls were held. The frequency and length of the meetings were the same for both UBS Group AG and UBS AG.

Governance and Nominating Committee

Members in 2019	Meeting attendance		Key responsibilities include:
Axel A. Weber, Chairperson	9/9	100%	The function of the Governance and Nominating Committee is to support the Board in fulfilling its duty to establish best practices in corporate governance across the Group, including conducting a Board assessment, establishing and maintaining a process for appointing new Board and GEB members as well as for the annual performance assessment of the Board.
Jeremy Anderson[1]	6/6	100%	
Michel Demaré[2]	3/3	100%	→ Refer to the Organization Regulations of UBS Group AG, available at www.ubs.com/governance, for more information
Julie G. Richardson[1]	6/6	100%	
Isabelle Romy	9/9	100%	
David Sidwell	9/9	100%	

1 Following the 2019 AGM, Jeremy Anderson and Julie G. Richardson became members of this committee; indicated are their attended and total meetings after their election. 2 Michel Demaré did not stand for re-election at the 2019 AGM; indicated are his attended and total meetings up to the 2019 AGM.

Risk Committee

Members in 2019	Meeting and call attendance		Key responsibilities include:
David Sidwell, Chairperson	15/15	100%	The function of the Risk Committee is to oversee and support the Board in fulfilling its duty to set and supervise an appropriate risk management and control framework in the areas of:
William C. Dudley[1]	11/11	100%	(i) risk management and control, including credit, market and treasury risks as well as legal, compliance and operational risks, including conduct risks; and
Reto Francioni	15/15	100%	(ii) balance sheet, treasury and capital management, including funding, liquidity and equity attribution.
Julie G. Richardson	15/15	100%	The Risk Committee considers the potential effects of the aforementioned risks on the Group's reputation.
Robert W. Scully	15/15	100%	→ Refer to the Organization Regulations of UBS Group AG, available at www.ubs.com/governance, for more information
Dieter Wemmer[2]	4/4	100%	

1 Following the 2019 AGM, William C. Dudley became a member of this committee; indicated are his attended and total meetings after his election. 2 After the 2019 AGM, Dieter Wemmer was no longer a member of this committee, instead he became a member of the Audit Committee; indicated are his attended and total meetings up to the 2019 AGM.

Roles and responsibilities of the Chairman of the Board of Directors

Axel A. Weber serves as a full-time Chairman of the BoD, in line with his employment contract.

The Chairman coordinates tasks within the BoD, calls BoD meetings and sets their agendas. He presides over all general meetings of shareholders and works with the committee Chairpersons to coordinate the work of all BoD committees. Together with the Group CEO, the Chairman is responsible for effective communication with shareholders and other stakeholders, including government officials, regulators and public organizations. This is in addition to establishing and maintaining a close working relationship with the Group CEO and other GEB members, and providing advice and support when appropriate, including continuing to support the firm's cultural change as a key priority on the basis of our Pillars, Principles and Behaviors.

→ **Refer to "Employees" in the "How we create value for our stakeholders" section on page 43 and to the foldout pages of this report for more information about our Pillars, Principles and Behaviors**

In 2019, the Chairman met on a regular basis with core supervisory authorities in all major regions where UBS is active. Meetings with important supervisory authorities in other regions were scheduled on an ad hoc or needs-driven basis.

Roles and responsibilities of the Vice Chairmen and the Senior Independent Director

The BoD appoints one or more Vice Chairmen and a Senior Independent Director. If the BoD appoints more than one Vice Chairman, one of them must be independent. Both the Vice Chairman and the Senior Independent Director support the Chairman with regard to his responsibilities and authorities and provide him with advice. In conjunction with the Chairman and the Governance and Nominating Committee, they facilitate good Group-wide corporate governance, as well as balanced leadership and control within the Group, the Board and the committees. David Sidwell has been appointed as Vice Chairman and Senior Independent Director. The Vice Chairman is required to lead and has led meetings of the BoD in the temporary absence of the Chairman. Together with the Governance and Nominating Committee, he is tasked with the ongoing monitoring and the annual evaluation of the Chairman. Furthermore, he represents UBS on behalf of the Chairman in meetings with internal or external stakeholders. The Senior Independent Director enables and supports communication and the flow of information among the independent BoD members. At least twice a year, he organizes and leads a meeting of the independent BoD members without the participation of the Chairman. In 2019, two independent BoD meetings were held for UBS Group AG and UBS AG, with an average participation rate of 77% and an average duration of approximately 160 minutes. The Senior Independent Director also relays to the Chairman any issues or concerns raised by the independent BoD members and acts as a point of contact for shareholders and stakeholders seeking discussions with an independent BoD member.

Important business connections of independent members of the Board of Directors

As a global financial services provider and a major Swiss bank, we enter into business relationships with many large companies, including some in which our BoD members assume management or independent board responsibilities. The Governance and Nominating Committee determines in each instance whether the nature of the Group's business relationship with such a company might compromise our BoD members' capacity to express independent judgment.

Our Organization Regulations require three-quarters of the UBS Group AG BoD members and one-third of those at UBS AG to be independent. For this purpose, independence is determined in accordance with the FINMA Circular 2017/1 "Corporate governance – banks" and the NYSE rules.

In 2019, our BoD met the standards of the Organization Regulations for the percentage of directors that are considered independent under the criteria described above. Since our Chairman is employed full-time by UBS Group AG, he is not considered independent. No other BoD member has a significant business connection to UBS or any of its subsidiaries.

All relationships and transactions with UBS Group AG's independent BoD members are conducted in the ordinary course of business and are on the same terms as those prevailing at the time for comparable transactions with non-affiliated persons. All relationships and transactions with BoD members' associated companies are conducted at arm's length.

→ **Refer to "Note 35 Related parties" in the "Consolidated financial statements" section on page 467 of this report for more information**

Checks and balances: Board of Directors and Group Executive Board

We operate under a strict dual board structure, as mandated by Swiss banking law. The separation of responsibilities between the BoD and the GEB is clearly defined in the Organization Regulations. The BoD decides on the strategy of the Group upon recommendations by the Group CEO and exercises ultimate supervision over management, whereas the GEB, headed by the Group CEO, has executive management responsibility. The functions of Chairman of the BoD and Group CEO are assigned to two different people, leading to a separation of power. This structure establishes checks and balances and preserves the institutional independence of the BoD from the day-to-day management of the Group, for which responsibility is delegated to the GEB, under the leadership of the Group CEO. No member of one board may simultaneously be a member of the other.

Supervision and control of the GEB remains with the BoD. The authorities and responsibilities of the two bodies are governed by the Articles of Association and the Organization Regulations.

Skills, expertise and training of the Board of Directors

The BoD is composed of members with a broad spectrum of skills, educational backgrounds, experience and expertise from a range of sectors that reflect the nature and scope of the firm's business. With a view to recruiting needs, the Governance and Nominating Committee uses a competencies and experience matrix as a tool to identify any gaps in the competencies considered most relevant to the BoD, taking into consideration the firm's business exposure, risk profile, strategy and geographic reach.

We asked our BoD members to rate their four key competencies from the following nine categories and to rate one of the two categories indicating the experience in a held senior position:

Key competencies

- banking (wealth management, asset management, personal and corporate banking; insurance)
- investment banking, capital markets
- finance, audit, accounting
- risk management
- human resources management, including compensation
- legal, compliance
- technology, cybersecurity
- regulatory authority, central bank
- environment, social and governance (ESG)

Leadership experience

- experience as chief executive officer or chairman
- executive board leadership experience (e.g., as chief financial officer, chief risk officer or chief operating officer of a listed company)

The Governance and Nominating Committee reviews these categories and ratings annually to confirm that the BoD continues to possess the most relevant experience and competencies to perform BoD duties.

For 2019, competencies in all 11 categories were represented in our BoD. Particularly strong levels of experience and expertise existed in these areas:

- financial services
- finance, audit, accounting
- risk management

Furthermore, nine of the 12 BoD members have held or currently hold chairman, CEO or other executive board-level leadership positions.

Moreover, education remained an important priority for our BoD members. In addition to a comprehensive induction program for new BoD members, continuous training and topical deep dives are part of the BoD agenda.

→ **Refer to "Risk governance" in the "Risk management and control" section on page 109 of this report for information about our risk governance framework**

Terms of office

Geographic diversity[1]

Gender

Competencies and experience[2]

1 In the case of dual nationals, the domicile applies. 2 The bars represent the main strengths of the BoD, up to a maximum of four key competencies and one leadership experience. 3 Wealth management, asset management, personal and corporate banking, insurance. 4 Environmental, social and governance. 5 For example a chief financial officer, chief risk officer or chief operating officer of a listed company.

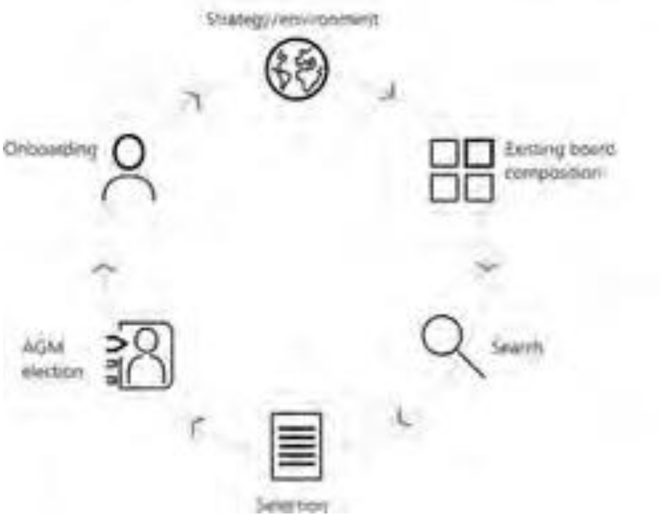
Succession planning

Succession planning is one of the key responsibilities of both the BoD and the GEB. Across all divisions and regions, an inclusive talent development and succession planning process is in place that is intended to foster the personal development and Group-wide mobility of our employees. While the recruiting process for BoD and GEB members takes into account a broad spectrum of factors, such as skills, backgrounds, experience and expertise, our approach with regard to diversity considerations does not constitute a diversity policy within the meaning of the EU Directive on Non-Financial Reporting and Swiss law does not require UBS to maintain such a policy.

The succession plans for the GEB and the management layer below are managed under the lead of the Group CEO. The BoD reviews and approves the succession plans of the GEB.

For the BoD, the Chairman leads a systematic succession planning process as illustrated in the chart below.

Board of Directors' succession planning process



Our strategy and the business environment constitute the main drivers in our succession planning process for new BoD members, as they define the key competencies required on the BoD. Taking diversity and tenure of the existing BoD composition into account, the Governance and Nominating Committee defines the recruiting profile for the search. Both external and internal sources contribute to identifying suitable candidates. The Chairman and the members of the Governance and Nominating Committee meet with potential candidates and, with the support of the full BoD, nominations are submitted to the AGM for approval. New BoD members follow an in-depth onboarding process that is designed to enable them to integrate efficiently and become effective in their new role. As a result of this succession planning process, the composition of the BoD is in line with the demanding requirements of a leading global financial services firm.

Information and control instruments with regard to the Group Executive Board

The BoD is kept informed of the activities of the GEB in various ways, including regular meetings between the Chairman, the Group CEO and GEB members. The Group CEO and other GEB members also participate in BoD meetings to update its members on all significant issues. Furthermore, the BoD receives comprehensive reports on a regular basis, covering financial, capital, funding, liquidity, regulatory, compliance and legal developments, as well as performance against plan and forecasts for the remainder of the year. For important developments, BoD members are also updated by the GEB in between meetings. In addition, the Chairman receives the meeting material and minutes of the GEB meetings.

BoD members may request from other BoD or GEB members any information about matters concerning the Group that they require in order to fulfill their duties. When these requests are raised outside of BoD meetings, such requests must be routed through the Group Company Secretary and addressed to the Chairman.

The BoD is supported in discharging its governance responsibilities by Group Internal Audit (GIA), which assesses the reliability of financial and operational information and the effectiveness of processes for compliance with legal, regulatory and statutory requirements.

The Head GIA reports directly to the Chairman. In addition, GIA has a functional reporting line to the Audit Committee in accordance with its responsibilities as set forth in our Organization Regulations. The Audit Committee monitors and assesses the effectiveness, independence and performance of the Head GIA and GIA, approves GIA's audit plan and objectives for the year and monitors GIA's discharge of these objectives.

The committee is also in regular contact with the Head GIA. GIA issues quarterly reports that provide: a broad overview of significant audit results and key issues; control themes and trends based on individual audit results; continuous risk assessment; and assurance results. The reports are provided to the Chairman of the BoD, the members of the Audit and the Risk Committees, the GEB and other stakeholders. Furthermore, GIA issues an annual activity report providing an assessment of its activities, processes, audit plan and resourcing requirements and other important developments affecting GIA. The activity report is provided to the Chairman of the BoD and to the Audit Committee, and is an element for their assessment of GIA's effectiveness.

→ **Refer to "Group Internal Audit" in this section for more information**

→ **Refer to "Internal risk reporting" in the "Risk management and control" section on page 115 of this report for information about reporting to the BoD**

Group Executive Board

The Board of Directors (the BoD) delegates the management of the business to the Group Executive Board (the GEB).

Responsibilities, authorities and organizational principles of the Group Executive Board

The GEB, under the leadership of the Group CEO, is comprised of 13 members. It has executive management responsibility for the steering of the Group and its business and assumes overall responsibility for developing and implementing the strategies of the Group, business divisions and Group functions as approved by the BoD. The GEB is also the risk council of the Group, with overall responsibility for establishing and supervising the implementation of risk management and control principles, as well as for managing the risk profile of the Group, as determined by the BoD and the Risk Committee.

At UBS AG management of the business is also delegated, and its Executive Board, under the leadership of its President, has executive management responsibility for UBS AG and its business. All members of the GEB are also members of UBS AG's Executive Board, with the exception of Axel P. Lehmann, as President UBS Switzerland AG.

In 2019, the GEB held 29 meetings for UBS Group AG and for UBS AG. Of these, five were strategy workshops and seven were supplementary meetings dedicated to risk remediation oversight. In addition, four standalone Executive Board meetings were held for UBS AG.

→ **Refer to the Organization Regulations of UBS Group AG, available at *www.ubs.com/governance*, for more information about the authorities of the Group Executive Board**

Members of the Group Executive Board

On 29 August 2019, we announced that Suni Harford and Iqbal Khan were to join the GEB. Suni Harford, former internal Head Investments in Asset Management, was to succeed Ulrich Körner as President Asset Management. Iqbal Khan, formerly an executive board member at Credit Suisse, was to succeed Martin Blessing as Co-President Global Wealth Management, alongside Tom Naratil. Martin Blessing and Ulrich Körner stepped down from the GEB. The biographies of Martin Blessing and Ulrich Körner can be found on pages 240 and 242 of the UBS Group AG Annual Report 2018 at *www.ubs.com/annualreport*. Group Chief Operating Officer Sabine Keller-Busse was given the additional role of President UBS Europe, Middle East and Africa. These changes were effective as per 1 October 2019.

On 19 February 2020, the Board of Directors appointed Ralph Hamers as the new Group CEO, succeeding Sergio P. Ermotti effective 1 November 2020. Mr. Hamers will join UBS as a member of the Group Executive Board on 1 September 2020.

The biographies on the following pages provide information about the GEB members in office as at 31 December 2019. In addition to information on mandates, the biographies include memberships and other activities or functions, as required by the SIX Swiss Exchange Corporate Governance Directive.

In line with Swiss law, article 36 of UBS Group AG's Articles of Association limits the number of mandates that GEB members may hold outside the UBS Group to one board membership in a listed company and five additional mandates in non-listed companies. Mandates in companies that are controlled by UBS or that control UBS are not subject to this limitation. In addition, GEB members may not hold more than 10 mandates at a time at the request of the company and eight mandates in associations, charitable organizations, foundations, trusts and employee welfare foundations. On 31 December 2019, no member of the GEB reached the aforementioned thresholds.

Responsibilities and authorities of the Group Asset and Liability Committee

The Group Asset and Liability Committee (the Group ALCO), established by the GEB, is responsible for supporting the GEB in its responsibility to promote the usage of the Group's assets and liabilities in line with the Group's strategy, regulatory commitments and the interests of shareholders and other stakeholders. The Group ALCO proposes the framework for capital management, capital allocation, funding and liquidity risk, and proposes limits and targets for the Group to the BoD for approval. It oversees the balance sheet management of the Group, its business divisions and Corporate Center. The Organization Regulations additionally specify which powers of the GEB are delegated to the Group ALCO. In 2019, the Group ALCO held 10 meetings for UBS Group AG. At the same time, 10 meetings were held by the Asset and Liability Committee of UBS AG, a committee responsible for managing UBS AG's assets and liabilities in line with the UBS AG and Group strategy and regulatory requirements.

Management contracts

We have not entered into management contracts with any companies or natural persons that do not belong to the Group.

Sergio P. Ermotti

Group Chief Executive Officer

Year of initial appointment
UBS: 2011 (UBS Group AG: 2014, UBS AG: 2011)

Year of birth I Nationality
1960 I Swiss

Professional history and education
Sergio P. Ermotti has been Group Chief Executive Officer of UBS Group AG since 2014, having held the same position at UBS AG since 2011. Mr. Ermotti became a member of the GEB in 2011 and was Chairman and CEO of UBS Group Europe, Middle East and Africa before taking over as Group CEO. From 2007 to 2010, he was Group Deputy Chief Executive Officer at UniCredit, and was responsible for the strategic business areas of Corporate and Investment Banking, and Private Banking. He joined UniCredit in 2005 as Head of the Markets & Investment Banking Division. His career began at Merrill Lynch in 1987, where he held various positions within equity derivatives and capital markets until 2003. In his last two years there, he served as Co-Head of Global Equity Markets and as a member of the Executive Management Committee for Global Markets & Investment Banking. Mr. Ermotti is a Swiss-certified banking expert and is a graduate of the Advanced Management Program at Oxford University.

Other activities and functions
- Member of the Board of UBS Switzerland AG
- Chairman of the Board of UBS Optimus Foundation
- Chairman of the Fondazione Ermotti, Lugano
- Member of the Board of the Swiss-American Chamber of Commerce
- Member of the Board of the Global Apprenticeship Network
- Member of the Institut International d'Etudes Bancaires
- Member of the Saïd Business School Global Leadership Council, University of Oxford

Christian Bluhm

Group Chief Risk Officer

Year of initial appointment
UBS: 2016

Year of birth | Nationality
1969 | German

Professional history and education
Christian Bluhm became a member of the GEB and was appointed Group Chief Risk Officer of UBS Group AG and UBS AG in 2016. He joined UBS from FMS Wertmanagement, where he had been Chief Risk & Financial Officer since 2010 and Spokesman of the Executive Board from 2012 to 2015. From 2004 to 2009, he worked for Credit Suisse, where he was Managing Director responsible for Credit Risk Management in Switzerland and Private Banking worldwide. Mr. Bluhm was Head of Credit Portfolio Management until 2008 and then Head of Credit Risk Management Analytics & Instruments after the financial crisis in 2008. From 2001 to 2004, he worked for Hypovereinsbank in Munich in Group Credit Portfolio Management, heading a team that specialized in Structured Finance Analytics. Before starting his banking career with Deutsche Bank in Credit Risk Management in 1999, he worked as a postdoctoral fellow at Cornell University and as a scientific assistant at the University of Greifswald. Mr. Bluhm holds a degree in mathematics and informatics from the University of Erlangen-Nuremberg and received his PhD in mathematics from the same university in 1996.

Other activities and functions
- Member of the Board of UBS Switzerland AG
- Chairman of the Foundation Board – International Financial Risk Institute

Markus U. Diethelm

Group General Counsel

Year of initial appointment
UBS: 2008 (UBS Group AG: 2014, UBS AG: 2008)

Year of birth | Nationality
1957 | Swiss

Professional history and education
Markus U. Diethelm has been Group General Counsel of UBS Group AG since 2014, having held the same position at UBS AG since 2008, when he became a member of the GEB. He was a member of the Executive Board of UBS Business Solutions AG from 2015 to 2016. From 1998 to 2008, he served as Group Chief Legal Officer at Swiss Re, and he was appointed to that company's Group Executive Board in 2007. Prior to that, he was with Los Angeles-based law firm Gibson, Dunn & Crutcher and focused on corporate matters, securities transactions, litigation and regulatory investigations while working out of the firm's Brussels and Paris offices. From 1989 to 1992, he practiced at Shearman & Sterling in New York, specializing in mergers and acquisitions. In 1988, he worked at Paul, Weiss, Rifkind, Wharton & Garrison in New York. After starting his career in 1983 with Bär & Karrer, he served as a law clerk at Uster District Court in Switzerland from 1984 to 1985. Mr. Diethelm holds a law degree from the University of Zurich and a master's degree and a PhD from Stanford Law School. He is a qualified attorney-at-law admitted to the bar in Zurich, Geneva and in New York State.

Other activities and functions
- Chairman of the Swiss-American Chamber of Commerce's legal committee
- Chairman of the Swiss Advisory Council of the American Swiss Foundation
- Member of the Foundation Council of the UBS International Center of Economics in Society
- Member of the Supervisory Board of the Fonds de Dotation LUMA / Arles

Kirt Gardner

Group Chief Financial Officer

Year of initial appointment
UBS: 2016

Year of birth I Nationality
1959 I American (US)

Professional history and education
Kirt Gardner became a member of the GEB and was appointed Group Chief Financial Officer of UBS Group AG and UBS AG in 2016. He was CFO Wealth Management from 2013 to 2015. Prior to that, he held a number of leadership positions at Citigroup, including CFO and Head of Strategy within Global Transaction Services from 2010 to 2013, Head of Strategy, Planning and Risk Strategy for the Corporate and Institutional Division from 2006 to 2010 and Head of Global Strategy and Cost Management for the Consumer Bank from 2004 to 2006. Prior to that, Mr. Gardner held the position of Global Head of Financial Services Strategy for BearingPoint, for which he worked in Asia and New York for four years. From 1994 to 2000, he was Managing Director at Barents Group, working in the US, Asia, Latin America and Europe. Mr. Gardner holds a bachelor's degree in economics from Williams College, a master's degree from the University of Pennsylvania and an MBA in finance from Wharton School.

Other activities and functions
– Member of the Board of UBS Business Solutions AG

Suni Harford

President Asset Management

Year of initial appointment
UBS: 2019

Year of birth I Nationality
1962 I American (US)

Professional history and education
Suni Harford became a member of the GEB and was appointed President Asset Management of UBS Group AG and UBS AG in October 2019. She has been with UBS since 2017 and joined as Group Managing Director and Head Investments in the Asset Management business division. Before joining UBS, Ms. Harford worked for almost 25 years at Citigroup Inc. in various senior management positions: she was Regional Head of Markets for North America from 2008 to 2017, with responsibility for sales, trading, origination and research across all fixed income, currencies, commodities, equities and municipal businesses. She was also a member of Citi's Pension Plan Investment Committee and a Director on the Board of Citibank Canada. From 2004 to 2008, Ms. Harford was Global Head of Fixed Income Research and, from 1995 to 2004, Co-Head Debt Capital Markets, Origination, Financial Institutions Group. She started her career as an investment banker at Merrill Lynch & Co in 1988. Ms. Harford holds an MBA from Tuck School of Business at Dartmouth and a bachelor's degree in physics and mathematics from Denison University, Ohio.

Other activities and functions
– Chairman of the Board of Directors of UBS Asset Management AG
– Member of the Leadership Council of the Bob Woodruff Foundation
– Member of the Board of UBS Optimus Foundation

Robert Karofsky

Co-President Investment Bank

Year of initial appointment
UBS: 2018

Year of birth I Nationality
1967 I American (US)

Professional history and education
Robert Karofsky is Co-President Investment Bank at UBS Group AG and UBS AG and became a member of the GEB in October 2018. He joined UBS in 2014 as Global Head Equities and has been President UBS Securities LLC since 2015. From 2011 to 2014, he was Global Head of Equity Trading at AllianceBernstein. He began his career at Morgan Stanley in 1994 and joined Deutsche Bank as Head of North American Equities in 2005, later taking over as Co-Head of Global Equities from 2008 to 2010. Mr. Karofsky holds a bachelor's degree in economics from Hobart and William Smith Colleges and an MBA in finance and statistics from the University of Chicago's Booth School of Business.

Other activities and functions
- Member of the Board of UBS Securities LLC
- Trustee of the UBS Americas Inc. Political Action Committee

Sabine Keller-Busse

Group Chief Operating Officer and
President UBS Europe, Middle East and Africa

Year of initial appointment
UBS: 2016

Year of birth I Nationality
1965 I Swiss and German

Professional history and education
Sabine Keller-Busse was appointed Group Chief Operating Officer of UBS Group AG and UBS AG as well as President of the Executive Board of UBS Business Solutions AG in 2018. In addition, she was appointed President UBS Europe, Middle East and Africa in October 2019. She was Group Head Human Resources from 2014 to 2017. Ms. Keller-Busse became a member of the GEB in 2016. Having joined UBS in 2010, she served as Chief Operating Officer UBS Switzerland until 2014. Prior to that, she led Credit Suisse's Private Clients Region Zurich division for two years. From 1995 to 2008, she worked for McKinsey & Company, where she was a Partner from 2002. Ms. Keller-Busse holds a PhD and a master's degree, both in business administration, from the University of St. Gallen.

Other activities and functions
- Member of the Supervisory Board of UBS Europe SE
- Member of the Board of UBS Business Solutions AG
- Vice-Chairman of the Board of Directors of SIX Group (Chairman of the nomination & compensation committee)
- Member of the Foundation Board of the UBS Pension Fund
- Member of the Board of the University Hospital Zurich Foundation

Iqbal Khan

Co-President Global Wealth Management

Year of initial appointment
UBS: 2019

Year of birth I Nationality
1976 I Swiss

Professional history and education
Iqbal Khan became a member of the GEB and was appointed Co-President Global Wealth Management of UBS Group AG and UBS AG in October 2019. Mr. Khan joined UBS from Credit Suisse, where he was CEO International Wealth Management from 2015 to 2019 and CFO Private Banking & Wealth Management from 2013 to 2015. Prior to that, he worked for Ernst & Young (EY), Switzerland, which he joined in 2001. At EY he was Managing Partner Assurance and Advisory Services – Financial Services, as well as being a member of the Swiss management committee from 2011 to 2013. Before that, from 2009 to 2011, he held the position of Industry Lead Partner Banking and Capital Markets, Switzerland and EMEA Private Banking. Mr. Khan holds an Advanced Master of International Business Law degree (LLM) from the University of Zurich. In addition, he is a Certified International Investment Analyst, a Swiss Certified Public Accountant and a Swiss Certified Trustee.

Other activities and functions
– Member of the Board of Room to Read Switzerland

Edmund Koh

President UBS Asia Pacific

Year of initial appointment
UBS: 2019

Year of birth I Nationality
1960 I Singaporean

Professional history and education
Edmund Koh became a member of the GEB and was appointed President UBS Asia Pacific at UBS Group AG and UBS AG in January 2019. He was Head Wealth Management Asia Pacific from 2016 to 2018 and Country Head Singapore from 2012 to 2018. Mr. Koh has more than 30 years' experience in senior roles in financial services. He joined UBS in 2012 as Head Wealth Management South East Asia and Asia Pacific Hub and Country Head Singapore from Taiwan-based Ta Chong Bank, where he served as President and Director from 2008 to 2011. From 2001 to 2008, Mr. Koh was Managing Director and Regional Head Consumer Banking of DBS Bank in Singapore. In 2001, he became CEO of Alverdine Pte Ltd and two years earlier he held the same position for Prudential Assurance, both companies based in Singapore. Mr. Koh holds a bachelor of science degree in psychology from the University of Toronto.

Other activities and functions
– Member of the Wealth Management Institute at Nanyang Technological University, Singapore
– Member of the Singapore Ministry of Finance's Committee on the Future Economy Sub-Committee
– Member of the Financial Centre Advisory Panel
– Member of the Board of Next50 Limited
– Trustee of the Cultural Matching Fund
– Member of the Board of Medico Suites (S) Pte Ltd
– Member of the Board of Medico Republic (S) Pte Ltd
– Council member of the Asian Bureau of Finance and Economic Research

Axel P. Lehmann

President Personal & Corporate Banking and President UBS Switzerland

Year of initial appointment
UBS: 2016 (UBS Group AG: 2016, UBS AG: 2016-2017)

Year of birth I Nationality
1959 I Swiss

Professional history and education
Axel P. Lehmann was appointed President Personal & Corporate Banking at UBS Group AG and President UBS Switzerland in 2018, in addition to taking over as President of the Executive Board of UBS Switzerland AG. He became a member of the GEB and was appointed Group Chief Operating Officer of UBS Group AG and UBS AG in 2016. He was a member of the BoD of UBS AG from 2009 to 2015 and of UBS Group AG from 2014 to 2015. Mr. Lehmann became a member of the group executive committee of Zurich Insurance Group in 2002, holding various management positions, including CEO for the European and North America businesses. From 2008 to 2015, he was Chief Risk Officer with additional responsibilities for Group IT, Regional Chairman for Europe, Middle East and Africa as well as Chairman for Farmers Group Inc. In 2001, he was appointed CEO for Northern, Central and Eastern Europe and Zurich Group Germany, having served as a member of the company's Group Management Board since 2000 with responsibility for group-wide business development functions. In 1996, he joined Zurich as a member of the Executive Committee Switzerland, and previously, he was Head of Corporate Planning and Controlling at SwissLife, Vice President of the Institute of Insurance Economics and a visiting professor at Bocconi University in Milan. Mr. Lehmann holds a PhD and a master's degree in business administration and economics from the University of St. Gallen. He is also a graduate of the Advanced Management Program of the Wharton School.

Other activities and functions
- Co-Chair of the Global Future Council on Financial and Monetary Systems of WEF
- Adjunct professor and Chairman of the Board of the Institute of Insurance Economics at the University of St. Gallen
- Member of the HSG Advisory Board of the University of St. Gallen
- Vice Chairman of the Swiss Finance Institute Foundation Board
- Member of the IMD Foundation Board, Lausanne
- Member of the Board and Board Committee, Zurich Chamber of Commerce
- Member of the Swiss-American Chamber of Commerce Chapter Doing Business in USA

Tom Naratil

Co-President Global Wealth Management and President UBS Americas

Year of initial appointment
UBS: 2011 (UBS Group AG: 2014, UBS AG: 2011)

Year of birth I Nationality
1961 I American (US)

Professional history and education
Tom Naratil became Co-President Global Wealth Management at UBS Group AG and UBS AG as well as CEO of UBS Americas Holding LLC in 2018. He was appointed President UBS Americas at UBS Group AG and UBS AG in 2016 and served as President Wealth Management Americas from 2016 to 2018. He became a member of the GEB in 2011 and was Group CFO of UBS AG from 2011 to 2015. He held the same position for UBS Group AG from 2014 to 2015. In addition to the role of Group CFO, he was Group Chief Operating Officer from 2014 to 2015. Mr. Naratil was President of the Executive Board of UBS Business Solutions AG from 2015 to March 2016. He served as CFO and Chief Risk Officer of Wealth Management Americas from 2009 until his appointment as Group CFO in 2011. Before 2009, he held various senior management positions within UBS, including heading the Auction Rate Securities Solutions Group during the financial crisis in 2008. Mr. Naratil was named Global Head of Marketing, Segment & Client Development in 2007, Global Head of Market Strategy & Development in 2005, and Director of Banking and Transactional Solutions, Wealth Management USA, in 2002. During this time, he was a member of the Group Managing Board. He joined Paine Webber Incorporated in 1983 and after the merger with UBS became Director of the Investment Products Group. Mr. Naratil holds an MBA in economics from New York University and a bachelor's degree in history from Yale University.

Other activities and functions
- Member of the Board of UBS Americas Holding LLC
- Member of the Board of the American Swiss Foundation
- Member of the Board of Consultors for the College of Nursing at Villanova University

Piero Novelli

Co-President Investment Bank

Year of initial appointment
UBS: 2018

Year of birth | Nationality
1965 | Italian

Professional history and education
Piero Novelli is Co-President Investment Bank at UBS Group AG and UBS AG and became a member of the GEB in October 2018. He was appointed Co-Executive Chairman Global Investment Banking, Corporate Client Solutions in 2017 and in 2016 became sole Global Head Advisory Services including Global Mergers and Acquisitions (M&A). Mr. Novelli rejoined UBS in 2013 as Chairman Global M&A and Group Managing Director. From 2011 to 2012, he was Global Co-Head of M&A at Nomura, having worked as Global Head M&A at UBS between 2004 and 2009. Before that he worked for Merrill Lynch and held the position of Head of European M&A and Head of European Industrials. Mr. Novelli holds a master's degree in management from the MIT Sloan School of Management and a master's degree in mechanical engineering from Università degli Studi di Roma.

Other activities and functions
None

Markus Ronner

Group Chief Compliance and Governance Officer

Year of initial appointment
UBS: 2018

Year of birth | Nationality
1965 | Swiss

Professional history and education
Markus Ronner is Group Chief Compliance and Governance Officer at UBS Group AG and UBS AG and became a member of the GEB in November 2018. In this role, he is responsible at the Group level for compliance and operational risk control, governmental and regulatory affairs as well as investigations and governance matters. He became Head Group Regulatory and Governance in 2012. During his 38 years with UBS, Mr. Ronner has held various positions across the bank, including: Group-wide program manager "too big to fail" (2011–2013); Chief Operating Officer (COO) Wealth Management & Swiss Bank (2010–2011); Head Products and Services of Wealth Management & Swiss Bank (2009–2010); COO Asset Management (2007–2009); and Head Group Internal Audit (2001–2007). Mr. Ronner joined the firm as an apprentice in 1981 and holds a Swiss Banking Diploma.

Other activities and functions
None

Change of control and defense measures

Our Articles of Association do not provide any measures for delaying, deferring or preventing a change of control.

Duty to make an offer

Pursuant to the Swiss Financial Market Infrastructure Act, an investor who has acquired more than $33\frac{1}{3}\%$ of all voting rights of a company listed in Switzerland (whether directly, indirectly or in concert with third parties), whether such rights are exercisable or not, is required to submit a takeover offer for all listed shares outstanding. We have not elected to change or opt out of this rule.

Clauses on change of control

Neither the employment agreement with the Chairman of the BoD nor any employment contracts with the GEB members or employees holding key functions within the company (Group Managing Directors) contain change of control clauses.

All employment contracts with GEB members stipulate a notice period of six months. During the notice period, GEB members are entitled to their salaries and the continuation of existing employment benefits and may be eligible to be considered for a discretionary performance award based on their contribution during their tenure.

In case of a change of control, we may, at our discretion, accelerate the vesting of and/or relax applicable forfeiture provisions of employees' awards.

→ **Refer to the "Compensation" section of this report on page 242 for more information**

Auditors

Audit is an integral part of corporate governance. While safeguarding their independence, the external auditors closely coordinate their work with Group Internal Audit. The Audit Committee and, ultimately, the Board of Directors (BoD) supervise the effectiveness of audit work.

→ **Refer to "Board of Directors" in this section for more information about the Audit Committee**

External independent auditors

The Annual General Meeting (the AGM) in 2019 re-elected Ernst & Young Ltd (EY) as auditors for the Group for a one-year term of office. EY assumes virtually all auditing functions according to laws, regulatory requests and the Articles of Association. The EY lead partner in charge of the Group financial audit since 2015 has been Marie-Laure Delarue. Due to a five-year rotation requirement, she will be succeeded in 2020 by Bob Jacob. Since 2016, Ira S. Fitlin has been the co-signing partner for the financial statement audit, with an incumbency limit of seven years. Patrick Schwaller has been the Lead Auditor to the Swiss Financial Market Supervisory Authority (FINMA) since 2015, with an incumbency limited to six years because of prior audit service to the Group in another role. Daniel Martin has been the co-signing partner for the FINMA audit since 2019, with an incumbency limit of seven years.

During 2019, the Audit Committee held eight meetings and three calls with the external auditors. The Audit Committee assesses the performance, effectiveness and independence of the external auditors on an annual basis. The assessment is based on interviews with senior management as well as survey feedback from stakeholders across the Group. Assessment criteria include quality of service delivery, quality and competence of the audit team, value added as part of the audit, insightfulness and the overall relationship with EY. Based on its own analysis and the assessment results, the Audit Committee concluded that EY's audit has been effective.

Special auditors for potential capital increases

At the AGM on 3 May 2018, BDO AG was reappointed as special auditors for a three-year term of office. Special auditors provide audit opinions in connection with potential capital increases independently from other auditors.

Fees paid to external independent auditors

The fees (including expenses) paid to EY are set forth in the table below. In addition, EY received USD 30.2 million in 2019 (USD 30.3 million in 2018) for services performed on behalf of our investment funds, many of which have independent fund boards or trustees.

Audit work includes all services necessary to perform the audit for the Group in accordance with applicable laws and generally accepted auditing standards, as well as other assurance services that conventionally only the auditor can provide. These include statutory and regulatory audits, attestation services and the review of documents to be filed with regulatory bodies. The additional services classified as audit in 2019 included several engagements for which EY was mandated at the request of FINMA.

Fees paid to external independent auditors

UBS Group AG and its subsidiaries (including UBS AG) paid the following fees (including expenses) to its external independent auditors.

USD thousand	31.12.19	31.12.18
Audit		
Global audit fees	52,448	54,716
Additional services classified as audit (services required by law or statute, including work of a non-recurring nature mandated by regulators)	12,808	16,595
Total audit[1]	65,255	71,310
Non-audit		
Audit-related fees	8,722	8,711
of which: assurance and attestation services	*4,155*	*5,390*
of which: control and performance reports	*4,314*	*3,261*
of which: consultation concerning financial accounting and reporting standards	*253*	*60*
Tax fees	1,966	1,212
All other fees	2,291	536
Total non-audit[1]	12,978	10,459

1 Total audit and non-audit fees amounted to USD 78,234 thousand for UBS Group AG consolidated as of 31 December 2019 (31 December 2018: USD 81,770 thousand), of which USD 51,926 thousand related to UBS AG consolidated (31 December 2018: USD 56,493 thousand).

Audit-related work comprises assurance and related services that are traditionally performed by the auditor, such as attestation services related to financial reporting, internal control reviews and performance standard reviews, as well as consultation concerning financial accounting and reporting standards.

Tax work involves services performed by professional staff in EY's tax division and includes tax compliance and tax consultation with respect to our own affairs.

"Other" services are permitted services, which include technical IT security control reviews and assessments.

Preapproval procedures

To ensure EY's independence, all services provided by EY have to be preapproved by the Audit Committee. A preapproval may be granted either for a specific mandate or in the form of a blanket preapproval authorizing a limited and well-defined type and amount of services.

The Audit Committee has delegated preapproval authority to its Chairperson. The Group Chief Financial Officer and the Group Controller and Chief Accounting Officer submit all proposals for services by EY to the Chairperson of the Audit Committee for approval, unless there is an agreed preapproval in place. At each quarterly meeting, the Audit Committee is informed of the approvals granted by its Chairperson and of services authorized under blanket preapprovals.

Group Internal Audit

Group Internal Audit (GIA) performs the internal auditing function for the Group, and in 2019 operated with an average headcount of 539 full-time equivalent employees. It is an independent and objective function that supports the Group in achieving its strategic, operational, financial and compliance objectives, and the BoD in discharging its governance responsibilities.

To support the achievement of UBS's objectives, GIA independently, objectively and systematically assesses the:

(i) soundness of the Group's risk and control culture;

(ii) reliability and integrity of financial and operational information, including whether activities are properly, accurately and completely recorded, and the quality of underlying data and models; and

(iii) design, operating effectiveness and sustainability of:
- processes to define strategy and risk appetite, as well as the overall adherence to the approved strategy;
- governance processes;
- risk management, including whether risks are appropriately identified and managed;
- internal controls, specifically whether they are commensurate with the risks taken;
- remediation activities; and
- processes to comply with legal and regulatory requirements, internal policies, and the Group's constitutional documents and contracts.

Audit reports that include significant issues are provided to the Group CEO, relevant GEB members and other responsible management. The Chairman, the Audit Committee and the Risk Committee of the BoD are also regularly informed of such issues.

In addition, GIA reviews whether issues with moderate to significant impact have been successfully remediated. This responsibility applies to issues identified by all sources: business management (first line of defense), control functions (second line of defense), GIA (third line of defense), external auditors and regulators. GIA also cooperates closely with risk control functions and internal and external legal advisors on investigations into major control issues.

To maximize GIA's independence from management, the Head GIA reports to the Chairman of the BoD and to the Audit Committee, which assesses annually whether GIA has sufficient resources to perform its function, as well as its independence and performance. In the Audit Committee's assessment, GIA is sufficiently resourced to fulfill its mandate and complete its auditing objectives. GIA's role, position, responsibilities and accountability are set out in our Organization Regulations and the Charter for Group Internal Audit, published at *www.ubs.com/governance.* The latter also applies to UBS AG's internal audit function. GIA has unrestricted access to all accounts, books, records, systems, property and personnel, and must be provided with all information and data that it needs to fulfill its auditing responsibilities. GIA also conducts special audits at the request of the Audit Committee, or other BoD members, committees or the Group CEO in consultation with the Audit Committee.

GIA enhances the efficiency of its work through coordination and close cooperation with the external auditors.

Information policy

We provide regular information to our shareholders and to the financial community.

Financial reports for UBS Group AG are expected to be published on the following dates:

First quarter 2020	28 April 2020
Second quarter 2020	21 July 2020
Third quarter 2020	20 October 2020

The Annual General Meetings of shareholders of UBS Group AG will take place on the following dates:

2020	29 April 2020
2021	28 April 2021

→ **Refer to the corporate calendar at *www.ubs.com/investors* for future financial report publication and other key dates, including UBS AG's financial report publication dates**

We meet with institutional investors worldwide throughout the year and regularly hold results presentations, attend and present at investor conferences, and, from time to time, host investor days. When appropriate, investor meetings are hosted by senior management and are attended by members of our Investor Relations team. We use various technologies, such as webcasting, audio links and cross-location videoconferencing, to widen our audience and maintain contact with shareholders globally.

We make our publications available to all shareholders simultaneously to provide them with equal access to our financial information.

Shareholders can download all our financial publications at *www.ubs.com/investors*. Shareholders may opt to receive a printed copy of our annual report or our annual review, which reflects on specific initiatives and achievements of the Group and provides an overview of the Group's activities during the year, as well as key financial information.

→ **Refer to *www.ubs.com/investors* for a complete set of published reporting documents and a selection of senior management industry conference presentations**

→ **Refer to the "Information sources" section on page 732 of this report for more information**

→ **Refer to "Corporate information" and "Contacts" in the introductory part of this report for more information**

Financial disclosure principles

We fully support transparency, and consistent and informative disclosure. We aim to communicate our strategy and results in a manner that allows stakeholders to gain a good understanding of how our Group works, what our growth prospects are, and the risks that our businesses and our strategy entail. We assess feedback from analysts and investors on a regular basis and, where appropriate, reflect this in our disclosures. To continue achieving these goals, we apply the following principles in our financial reporting and disclosure:

– transparency that enhances the understanding of economic drivers and builds trust and credibility;
– consistency within each reporting period and between reporting periods;
– simplicity that allows readers to gain a good understanding of the performance of our businesses;
– relevance by focusing not only on what is required by regulation or statute but also on what is relevant to our stakeholders; and
– best practice that leads to improved standards.

Consistent with our financial reporting and disclosure principles, we continue to benchmark disclosures in our financial reports against recommendations issued by the Financial Stability Board's Enhanced Disclosure Task Force in 2012. We regard the improvement of our disclosures as an ongoing commitment.

Financial reporting policies

We report our Group's results for each financial quarter, including a breakdown of results by business division and disclosures or key developments relating to risk management and control, capital, liquidity and funding management. Each quarter, we publish quarterly financial reports for UBS Group AG, on the same day as the earnings releases.

The consolidated financial statements of UBS Group AG and UBS AG are prepared in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board.

→ **Refer to "Note 1 Summary of significant accounting policies" in the "Consolidated financial statements" section on page 311 of this report for more information about the basis of accounting**

We are committed to maintaining the transparency of our reported results and to allowing analysts and investors to make meaningful comparisons with prior periods. If there is a major reorganization of our business divisions or if changes to accounting standards or interpretations lead to a material change in the Group's reported results, our results are restated for previous periods as required by applicable accounting standards. These restatements show how our results would have been reported on the new basis and provide clear explanations of all relevant changes.

US disclosure requirements

As a foreign private issuer, we must file reports and other information, including certain financial reports, with the US Securities and Exchange Commission (the SEC) under the US federal securities laws. We file an annual report on Form 20-F and furnish our quarterly financial reports and other material information under cover of Form 6-K to the SEC. These reports are available at *www.ubs.com/investors* and on the SEC's website at *www.sec.gov*.

An evaluation was carried out, under the supervision of management, including the Group CEO, the Group CFO and the Group Controller and Chief Accounting Officer, of the effectiveness of our disclosure controls and procedures (as defined in Rule 13a–15e) under the US Securities Exchange Act of 1934. Based on that evaluation, the Group CEO and the Group CFO concluded that our disclosure controls and procedures were effective as of 31 December 2019. No significant changes have been made to our internal controls or to other factors that could significantly affect these controls subsequent to the date of their evaluation.

→ **Refer to the "Consolidated financial statements" section on page 289 of this report for more information**

Compensation

Julie G. Richardson
Chair of the
Compensation Committee
of the Board of Directors

Dear Shareholders,

The Board of Directors and I wish to thank you for your support once again at last year's Annual General Meeting (AGM) and for sharing your views on our compensation practices over the past year.

Throughout 2019, the BoD Compensation Committee continued to oversee compensation and ensure that reward reflects performance, appropriate risk-taking and supports the alignment of employee interests with those of our shareholders. As the new Chair of the Compensation Committee, I am pleased to present our Compensation Report for 2019.

Shareholder engagement

Over the course of 2019, we continued proactively engaging with shareholders and considered the feedback we received at the 2019 AGM. While shareholders value the consistency of our approach including the long delivery of our deferred compensation over five years, the feedback also highlighted opportunities to further evolve our approach. Our revised compensation framework supports us in achieving our ambitions for the Group and greater alignment with shareholders' interests.

We conducted a holistic review of all elements of our compensation framework for our employees, most senior leaders including the Group Executive Board (the GEB), the Chairman and independent Board members. We heard feedback requesting stronger alignment and we have taken that feedback seriously. While we have maintained the most important elements of our compensation framework, our review has led to some significant changes, as summarized in the table below and further detailed throughout this report.

Key changes to our compensation framework and related disclosures

Introduction of the Long-Term Incentive Plan	– Effective for the performance year 2019, we replaced the Equity Ownership Plan (the EOP) with the new equity-based Long-Term Incentive Plan (the LTIP) for our most senior leaders (i.e., Group Executive Board (GEB) members, Group Managing Directors (GMDs) and Group or Divisional Vice Chair role holders). This supports the alignment of compensation with the execution of our strategy, financial performance and long-term growth. – The LTIP features an absolute and a relative performance condition based on reported return on CET1 capital (RoCET1) and relative total shareholder return (rTSR) metrics, creating a strong sensitivity of realized compensation to UBS's financial performance and share price, and supports alignment with shareholders. – Achieving the maximum payout under the LTIP requires both a three-year average RoCET1 of 18% and, over a three-year period, for our TSR to outperform the peer index by 25 percentage points. – The use of reported RoCET1 as a performance metric supports the focus on ensuring the cost of litigation matters has a direct impact on the compensation awarded and realized by our most senior leaders.
Additional vesting condition in connection with the resolution of the French cross-border matter	– For the Group CEO and certain other GEB members, the vesting of a portion (30%) of the 2019 LTIP award is, in addition to RoCET1 and rTSR performance conditions, directly linked to the final resolution of the French cross-border matter. This portion is entirely at risk and subject to forfeiture based on the final cost associated with the resolution of the matter. The same vesting condition also applies to a portion of the Chairman's 2019 share award. – This is consistent with our approach to align the interests of management with those of shareholders to resolve this matter in the best interests of all shareholders, even though the underlying issue is a legacy matter.
Rebalancing of fees for members of the Board of Directors	– Reflecting our holistic review, we have made a number of adjustments that also contribute toward our cost reduction efforts; starting with the current period from the 2019 AGM to the 2020 AGM, the Chairman's fixed compensation was reduced by 14%. – In the same spirit, and effective from the 2020 AGM onward, the BoD will reduce fees for all its members and eliminate the share price discount. – The adjustments in Board fees reflect our commitment to sustainable results while maintaining competitive fee levels aligned with the demands on our Board members.
Enhanced disclosure for CEO performance assessment	– We have enhanced the transparency of the major elements of the performance assessment for the Group CEO. – The disclosure brings further clarity on the overall achievement, weighting and the scale of the assessment.

Cornerstones of our compensation framework

Consistent approach to key elements has been maintained	– Strong alignment between compensation and risk-adjusted financial performance – Consideration of behaviors and conduct in performance assessment and compensation – High mandatory deferral rates into UBS shares and UBS contingent capital – Long deferral periods over five years – Forfeiture and clawback provisions

2019 financial highlights and performance award pool

In 2019, we delivered solid financial results in mixed market conditions, demonstrating the strength of our business model. Reported profit before tax was USD 5.6 billion, a decrease of 7% compared with 2018, while adjusted profit before tax decreased slightly to USD 6.0 billion. We maintained our strong capital position with a common equity tier 1 (CET1) capital ratio of 13.7% and a CET1 leverage ratio of 3.9% at year-end, both above our capital guidance. Reported return on CET1 capital was 12.4%. For 2019, the BoD intends to propose a dividend of USD 0.73 per share and we repurchased USD 806 million (CHF 800 million) of UBS shares over the course of the year.

In 2019, interest rate headwinds intensified, global growth slowed and geopolitical concerns persisted, impacting the overall Group results and, consequently, the Group performance award pool. In determining the final pool and consistent with prior years, we have considered a range of factors. These include risk-adjusted profit, returns and capital strength, as well as relative performance, progress on ESG, regulatory and litigation matters, including the impact of the French cross-border matter on the firm and the resulting share price development. The year-on-year development of the performance award pool reflected a reduction beyond that implied by underlying performance.

Based on these considerations, the performance award pool for the Group decreased 14% to USD 2.7 billion (compared with USD 3.1 billion in the prior year). This decrease demonstrates our disciplined approach in managing compensation over business cycles and alignment to shareholder interests, and we believe without significantly impacting our competitive pay position.

The GEB performance award pool, which includes the Group CEO performance award and is part of the Group pool, was CHF 70.3 million, a reduction of 14% on a per capita basis and 4% overall. As a percentage of adjusted Group profit before tax, the GEB performance award pool was 1.2%, well below the cap of 2.5%. The overall pool also reflects the changes in the composition of the GEB, including new GEB members and the elevation of certain roles to the GEB that were previously not included, and therefore the adjustments do not reflect a meaningful change in the total cost to shareholders. These changes were made to optimize our governance structure and execute on our strategic priorities.

2019 compensation philosophy and framework

Our compensation philosophy and framework support the alignment of employee interests with those of our shareholders and clients. The consistency of our approach reinforces our culture of sustainable performance, while also supporting our growth ambitions, sound governance, accountability and appropriate risk-taking. The recognition of behaviors and culture is an important element of our framework. To reinforce the behaviors framework established by the BoD and the GEB, we reward not only what was achieved, but also how those results were achieved. We reward doing the right thing, collaborating across the bank and speaking up to identify opportunities and risks. We penalize instances of behavior that do not reflect our values.

Variable compensation is earned over the performance year and many employees have a significant portion of their annual performance award deferred. We believe UBS has one of the most rigorous deferral regimes in the industry, with a deferral period of up to five years, or longer for certain regulated employees. This long deferral period, in conjunction with our deferred contingent capital (DCCP) awards, has been a cornerstone of our compensation framework to support sustainability. Since 2012, our most senior leaders have received 50% of their performance award in equity, linking a significant portion of compensation to the UBS share price. We have enhanced this feature by adding a connection to rTSR in the new LTIP.

Litigation and regulatory matters, and their resolution and remediation, are taken into consideration in the compensation decision-making process. Share price movements affect all employees receiving deferred equity-based awards. With respect to the performance conditions on LTIP awards, provisions for legal, regulatory and similar matters will directly affect the reported RoCET1 metric and thus also the final vesting amount. This metric accounts for 50% of the final payout under the 2019 LTIP. The use of reported RoCET1 as a performance metric supports the focus on ensuring the cost of litigation matters has a direct effect on the compensation awarded to and realized by our most senior leaders, including the GEB.

For 2019, to further enhance alignment with shareholders on the French cross-border matter, we have also introduced a new additional vesting condition for the Chairman, the Group CEO and certain other GEB members, which links a portion of their 2019 equity compensation to the final resolution of the French cross-border matter. This underlines their accountability for the successful resolution of the matter in the best interest of shareholders even though the underlying issue is a legacy matter.

Board fees and Chairman compensation

In our review of the remuneration framework for independent Board members, we concluded that our fundamental approach remains appropriate. However, effective from the 2020 AGM onward, a number of adjustments will be made to reduce the level of the Board's compensation while still maintaining competitive fee levels.

The Chairman's fixed compensation has been reduced by CHF 0.8 million, or 14%, to CHF 4.9 million. This change is already effective for the current period from the 2019 AGM to the 2020 AGM. As noted above, a portion of the Chairman's 2019 share award remains entirely at risk due to a new vesting condition linked to the final resolution of the French cross-border matter. This further demonstrates the Chairman's alignment with shareholders on this matter and his accountability to resolve this matter in the best interest of shareholders.

In the same spirit, the BoD will reduce their base fee and eliminate their share price discount, resulting in a total fee reduction of approximately 14% (depending on committee memberships) and a 10% reduction in our proposed maximum amount of compensation for the BoD.

Environmental, Social and Governance (ESG)

We are fully committed to ESG topics and reflect them in our compensation processes. ESG-related objectives have been embedded in our Pillars and Principles since they were established in 2011. Our contribution to supporting the planet, our workforce, our clients and society are important to our success. ESG matters are considered in the performance and compensation determination process in different aspects as described later in this report.

UBS continued to make progress in 2019 toward meeting its ambitions to be a leader in sustainable finance, in philanthropy and in sustainable business practices, as well as being an employer of choice. We were recognized as the industry leader, for the fifth time in a row, in the Dow Jones Sustainability Indices (the DJSI), the most widely recognized sustainability ranking, and received other valuable recognition from MSCI, Sustainalytics and CDP.

Gender-related aspects in compensation

UBS remains committed to hiring, retaining and promoting more women at all levels across the firm. With two female GEB members and four female independent Board members, we have a leading position with regard to this topic.

The Compensation Committee systematically reviews any gender pay gap for equivalent roles across the workforce. Our policies and practices are impartial and support equal pay, and we are committed to ensuring that all employees are paid fairly.

Pay equity is embedded into our compensation policies and practices and we conduct regular reviews to ensure that all employees are paid fairly. In 2019, an independent third party conducted an analysis across the globe that shows that the unexplained salary differential between female and male employees is less than 1% at UBS. We continue to review the root causes and address any issue that cannot be explained by business factors such as experience, role / job, responsibility, performance or location.

Overall, we continue to make progress toward our aspiration of increasing the ratio of women in management roles to one-third, but progress takes time and we are committed to accelerating our efforts to progress women at all ranks.

Compensation Committee membership

In 2019, Dieter Wemmer and I welcomed Reto Francioni back to the committee and Fred Hu to the committee for the first time.

2020 Annual General Meeting

At the 2020 AGM on 29 April, we will seek your support on the following compensation-related items:
- the maximum aggregate amount of compensation for the BoD for the period from the 2020 AGM to the 2021 AGM;
- the maximum aggregate amount of fixed compensation for the GEB for 2021;
- the aggregate amount of variable compensation for the GEB for 2019; and
- shareholder endorsement in an advisory vote for this Compensation Report.

On behalf of the Compensation Committee and the BoD, I would like to thank you again for your feedback. The changes made have enhanced our compensation framework in the interests of shareholders, and we respectfully ask for your continued support at the upcoming AGM.

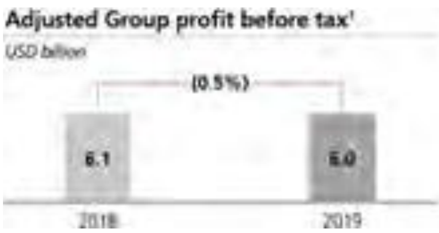
Julie G. Richardson
Chair of the Compensation Committee of the Board of Directors

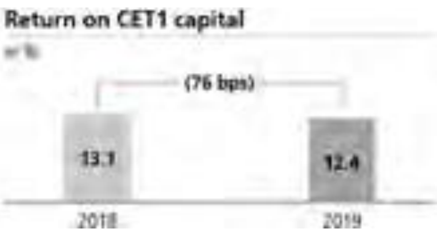
Performance and compensation at a glance

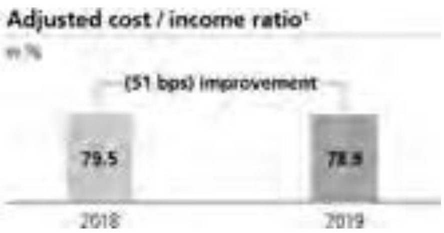
Financial achievements and strategic highlights[1]

- We delivered solid financial results in mixed market conditions, reflecting the strength of our business model. Profit before tax decreased 7% to USD 5.6 billion, as a 4% decrease in operating income was not fully offset by lower operating expenses. Adjusted profit before tax decreased slightly to USD 6.0 billion, as reduced adjusted operating expenses nearly offset lower adjusted operating income.
- Net profit attributable to shareholders decreased 5% to USD 4.3 billion. Return on common equity tier 1 (CET1) capital was 12.4%. Our reported cost / income ratio increased 62 basis points to 80.5%, reflecting cost management measures that partly offset lower revenues, while our adjusted cost / income ratio saw a 51 basis point improvement to 78.9%, reflecting 4% lower expenses and 3% lower revenues.
- Our capital position remained strong, with a CET1 capital ratio of 13.7% and a CET1 leverage ratio of 3.9%, both above our capital guidance of around 13% and 3.7%, respectively. We increased our total loss-absorbing capacity by USD 5.9 billion to USD 89.6 billion.
- For the financial year 2019, the Board of Directors intends to propose a dividend of USD 0.73 per share, an increase compared with 2018. During 2019, we repurchased USD 806 million (CHF 800 million) of UBS shares and our tangible book value per share increased 6% to USD 13.29.

→ **Refer to the "Financial and operating performance" section of this report for further details about our Group and business division performance**

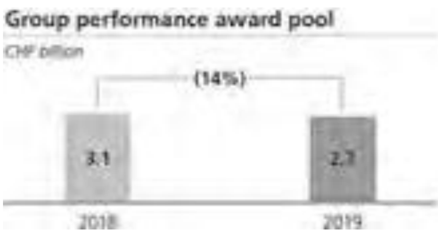


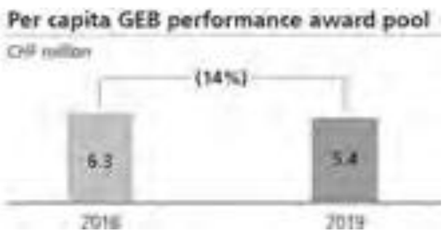




1 Adjusted results are alternative performance measures (APMs) and non-GAAP financial measures. Refer to "Group Performance" in the "Financial and operating performance" section of this report for further information and a reconciliation of adjusted results to reported results.

Performance award pool year-on-year development





- The Group performance award pool for 2019 decreased 14% compared with the previous year. This significant decrease, which is a greater reduction than the change in underlying performance, demonstrates our disciplined approach in managing compensation over business cycles and alignment to shareholder interests, and we believe without significantly impacting our competitive pay position. It also considers the impact of the French cross-border matter on the firm and the resulting share price development.
- The Group CEO performance award for 2019 was CHF 9.7 million, a decrease of 14% compared with 2018. The award is comprised of 20% in cash (CHF 1.9 million) with the remaining 80% (CHF 7.8 million) deferred over three to five years.
- The GEB performance award pool, which includes the Group CEO performance award and is part of the Group performance award pool, was CHF 70.3 million, a decrease of 14% on a per capita basis and 4% overall. The overall pool also reflects the changes in the composition of the GEB, including new GEB members and the elevation of certain roles to the GEB that were previously not included, and therefore the adjustments do not reflect a meaningful change in the total cost to shareholders. These changes were made to optimize our governance structure and execute on our strategic priorities.
- The new Long-Term Incentive Plan introduced for 2019 performance awards increases the GEB's exposure to the future performance of the Group and directly links compensation to relative total shareholder return.
- In addition, CHF 7.3 million of the GEB performance award pool is entirely at risk, contingent upon the final resolution of the French cross-border matter.

Shareholder engagement and say on pay

The feedback we seek from our shareholders on compensation-related matters is very important to us, as we are committed to maintaining a strong link between the interests of our employees and those of our shareholders.

At the 2019 AGM, we committed to conducting a holistic review of all elements of the compensation framework for our employees, our most senior leaders including the Group Executive Board (the GEB), the Chairman and independent Board members. We heard feedback requesting stronger alignment with shareholder interests, which we implemented while maintaining the most important elements of our compensation framework.

Below we provide responses to the questions we most frequently receive from stakeholders.

Responses to frequent questions

What has changed in the compensation framework for your most senior leaders?

The most important elements of our compensation framework remain unchanged. In particular, performance awards continue to be based on the employee's annual performance assessment and we are maintaining the long-term nature of our compensation framework through mandatory deferrals into equity and contingent capital instruments. For GEB members, shares are delivered in equal installments in years 3, 4 and 5 after the grant year, and contingent capital awards continue to vest in year 5.

However, we have modified the delivery of the deferred equity portion for our most senior leaders (i.e., GEB members, GMDs and Group or Divisional Vice Chair role holders) with the new Long-Term Incentive Plan (the LTIP) replacing the Equity Ownership Plan (the EOP) to enhance focus on delivering on our return targets and increasing alignment with shareholders.

The LTIP features absolute and relative performance conditions based on reported return on CET1 capital (RoCET1) and relative total shareholder return (rTSR) metrics, creating a strong sensitivity of realized compensation to UBS's financial performance and share price. The final number of vesting shares is based on the achievements against these two equally-weighted performance conditions after a three-year performance period. Achieving the maximum payout under the LTIP requires both a three-year average RoCET1 of 18% and, over a three-year period, for our TSR to outperform the peer index by 25 percentage points. The RoCET1 performance level required for a maximum payout is substantially above our stated long-term target, and we believe this further strengthens the alignment with our strategy and supports delivering sustainable, profitable growth to drive higher returns, creating long-term value for our shareholders.

At the same time, the linear vesting between minimum threshold and performance required for maximum payout does not encourage excessive risk-taking, which might be the case with a non-linear payout geared toward high performance levels. This approach balances the importance of sustainable performance with our ambitions to deliver higher returns and outperform our peers.

How are share price developments reflected in compensation?

Beyond the factors described elsewhere in this report, we consider rTSR as well as valuation relative to other banks.

Our mandatory share-based deferral plans create a direct link with shareholder returns and therefore many employees are directly impacted by the share price. In addition, the new LTIP features rTSR as a performance condition, which further supports the alignment of realized employee pay with shareholder returns.

While we are disappointed with our share price performance, we believe the share price movement in 2019 was significantly impacted by the outcome of the French cross-border matter and does not reflect the significant progress made during the year and our absolute financial performance. We continue to expect that the value of our business and the quality of our earnings will ultimately be positively reflected in our share price.

How is ESG considered in the compensation process?

ESG is considered in the compensation determination process in different stages through the objective setting, performance award pool funding, performance assessment and compensation decision.

In the performance award pool funding, ESG is reflected through the assessment of regulatory compliance, as well as legal, compliance, reputational and operational risks. In addition, ESG-related objectives have been embedded in our Pillars and Principles since they were established in 2011. Achievements versus ESG-related goals are taken into account in the qualitative performance assessment and affect the final compensation decision for each individual. ESG-related goals are reflected in governance and risk management, talent management and diversity, client satisfaction, and corporate responsibility, including goals for reducing our carbon footprint and corporate waste, and progressing our philanthropic efforts. Therefore, ESG is taken in consideration when the Compensation Committee applies its discretion to reflect not only what results were achieved, but also how they were achieved.

How is litigation considered in the compensation process?
Litigation and regulatory matters, and their resolution and remediation, are taken into consideration throughout the compensation decision-making process. The Compensation Committee distinguishes between current matters, where the underlying issues are within the responsibility of management, and legacy matters, where management is accountable for resolving them but not responsible for the underlying issue.

Current matters have a direct impact on the performance award pool, individual performance assessments and resulting compensation decisions, as well as the payout of deferred awards.

For legacy matters, the Compensation Committee seeks to incentivize management to resolve these matters in the best interest of shareholders and we hold management accountable for the effective and efficient resolution thereof. Therefore the performance and compensation assessment reflects management's responsibility for achieving a resolution without creating an incentive to inappropriately settle or take inappropriate risks on such matters. The use of reported RoCET1 supports the focus on ensuring the cost of litigation matters has a direct impact on the compensation awarded and realized by our most senior leaders including the GEB.

How is the French cross-border matter reflected in the 2019 compensation of the GEB?
For the 2019 compensation decisions for the GEB, the Compensation Committee has considered the outcome of the French cross-border decision, reflecting alignment with shareholders on this matter. Additionally, the final outcome of the matter will impact the payout of the 2019 LTIP award through the RoCET1 metric.

For GEB members active in March 2017, when the investigating judges issued the trial order, as an added measure the 2019 LTIP award will further be subject to the following considerations impacting their 2019 compensation.

- Up to an additional CHF 7.9 million, or 30% of the 2019 LTIP awards at grant for relevant GEB members as well as the Chairman's unvested share award, are at risk and directly linked to the final resolution of the French matter. The portion at risk is subject to forfeiture based on the final cost associated with the resolution of the matter.
- A new malus clause allows the Compensation Committee to assess any new information that becomes available in the future and to retrospectively reduce the 2019 LTIP award by up to the full amount if such new information would have impacted our compensation decision in 2019.

Why has UBS adjusted Board fees and compensation for the Chairman?
The Compensation Committee regularly reviews the remuneration framework for independent Board members to confirm it remains competitive and appropriately reflects their work on the Board of UBS. In this review, the Compensation Committee considered the feedback from shareholders and other stakeholders. In our 2019 review, we concluded that our fundamental approach for independent Board member compensation remains appropriate. However, effective from the 2020 AGM onward, a number of adjustments have been made to reduce the level of the Board compensation while still maintaining competitive fee levels.

We will reduce the fixed base fee by CHF 25,000 (i.e., approximately 8%) for each board member and will also reduce the additional fees for the Risk and Compensation Committee Chair roles. Furthermore, we will reduce the additional fee for the Senior Independent Director and Vice Chairman roles to CHF 150,000, a reduction of CHF 100,000. In case these two roles are allocated to one Board member, the fee will only be paid once. Moreover, independent Board members must continue to use a minimum of 50% of their fees to purchase UBS shares, which are blocked for four years, and we will eliminate the 15% discount for these purchases.

The Chairman's fixed compensation has been reduced by CHF 0.8 million, starting with the current period from the 2019 AGM to the 2020 AGM. In addition, to further demonstrate the Chairman's alignment with shareholder interests, a portion of up to CHF 0.6 million of the share award is subject to the same new vesting condition linked to the resolution of the French cross-border matter that has been introduced for the Group CEO and certain other GEB members.

How does the Compensation Committee use its discretion to determine the performance award pool?
The performance award pool funding begins with a direct link to risk-adjusted profit. The Compensation Committee, based on a proposal from the Group CEO, then applies discretionary adjustments that reflect a range of factors, such as capital returns to investors, risk profile, strategic initiatives, and labor market position and trends. Consequently, the performance award pool balances consideration of financial performance with a range of qualitative factors, including discretion to consider the quality of earnings and year-on-year performance, as well as progress with regard to delivering on our ambitions.

Reflecting these considerations, the Compensation Committee applied a negative discretionary adjustment for 2019 on the overall Group performance award pool and the GEB performance award pool, including the Group CEO performance award. Over the past seven years, the Compensation Committee applied discretionary adjustments to the performance award pool of between –6% and +2%, resulting in downward adjustments in all but one year.

Say-on-pay votes at the AGM

In line with the Swiss Ordinance against Excessive Compensation in Listed Stock Corporations, we seek binding shareholder approval for the aggregate compensation awarded for the GEB and for the BoD. The BoD believes that prospective approval for the fixed remuneration for the BoD and the GEB provides the firm and its governing bodies with the certainty necessary to operate effectively. Furthermore, retrospective approval for the GEB's variable compensation awards aligns total compensation for the GEB to performance and contribution, and to developments in the marketplace and across peers.

The combination of the binding votes on compensation and the advisory vote on the compensation framework reflects our commitment to our shareholders having their say on pay.

→ **Refer to "Provisions of the Articles of Association related to compensation" in the "Supplemental information" section of this report for more information**

Audited |

Approved fixed compensation

At the 2018 AGM, shareholders approved a maximum aggregate fixed compensation amount of CHF 31.5 million for the members of the GEB for the performance year 2019. This includes base salaries, role-based allowances in response to Capital Requirements Directive IV, estimated standard contribution to retirement benefit plans, other benefits and a buffer.

As a result of the changes in the GEB in 2019, the aggregate fixed compensation paid in 2019 to current and former GEB members exceeded the approved amount for 2019. As authorized by article 46 para. 5 of the Articles of Association, an amount of CHF 8.4 million was used to pay the amount of the fixed compensation of the new GEB members that exceeded the approved amount. This additional amount was used to fund the new appointments to the GEB: Iqbal Khan, as Co-President Global Wealth Management, was awarded CHF 8.2 million (including replacement awards), Suni Harford, as President Asset Management, was awarded CHF 0.1 million, and Edmund Koh, as President UBS Asia Pacific, was awarded CHF 0.1 million. ▲

→ **Refer to "2019 total compensation for the GEB members" in the "Compensation for the Group CEO and the other GEB members" section of this report**

→ **Refer to "Replacement awards for new GEB members and forfeitures of former GEB members" in the "Compensation philosophy and framework" section of this report**

Say on pay – compensation-related votes at the 2019 AGM

2019 AGM say-on-pay voting schemes	2019 AGM actual shareholder votes	Vote "for"
Binding vote on GEB variable compensation	Shareholders approved CHF 73,300,000 for the financial year 2018[1, 2, 3]	81.4%
Binding vote on GEB fixed compensation	Shareholders approved CHF 33,000,000 for the financial year 2020[1, 2, 3]	86.7%
Binding vote on BoD compensation	Shareholders approved CHF 14,500,000 for the period from the 2019 AGM to the 2020 AGM[1, 2, 4]	85.3%
Advisory vote on the Compensation Report	Shareholders approved the UBS Group AG Compensation Report 2018 in an advisory vote	79.4 %

1 Local currencies are converted into Swiss francs at the exchange rates stated in "Note 37 Currency translation rates" in the "Consolidated financial statements" section of this report. 2 Excludes the portion related to the legally required employer's social security contributions. 3 Thirteen GEB members were in office on 31 December 2019 including three new GEB members, one appointed on 1 January 2019 and two on 1 October 2019; three GEB members stepped down, one on 31 December 2018 and two on 30 September 2019. Thirteen GEB members were in office on 31 December 2018 including two new GEB members appointed on 1 October 2018 and one on 1 November 2018; two GEB members stepped down on 31 December 2017 and 30 September 2018, respectively. 4 Twelve BoD members were in office on 31 December 2019.

Compensation-related proposals for 2020

At the 2020 AGM, we will ask our shareholders to vote on the variable compensation for the GEB for 2019, the fixed compensation for the GEB for 2021 and the compensation for the BoD from the 2020 AGM to the 2021 AGM. The variable compensation for the GEB for 2019 includes the total amount of Long-Term Incentive Plan (LTIP) awards granted to GEB members at fair value, which is based on the methodology used to determine the expense to the organization under IFRS 2 standards. The value was independently calculated to support the robustness of the approach, which uses a well-established valuation methodology.

In addition, we will also ask our shareholders for an advisory vote on our Compensation Report, which describes our compensation framework, governance and policy. Both the advisory vote on our compensation policy and the binding votes on compensation reflect our commitment to transparent say on pay for our shareholders.

The table below outlines our compensation proposals, including supporting rationales, that we intend to submit to the 2020 AGM for binding votes (in line with the Swiss Ordinance against Excessive Compensation in Listed Stock Corporations and our Articles of Association).

Compensation-related proposals for binding votes at the 2020 AGM

Item	Proposal	Rationale
GEB variable compensation	The Board of Directors proposes an aggregate amount of variable compensation of CHF 70,250,000 for the members of the GEB for the financial year 2019.	The proposed amount reflects the overall solid financial results in mixed market conditions, continued strong capital position and increased capital distributions to shareholders. Further, the BoD also considered other factors including the impact of the French cross-border matter on the firm and the resulting share price development. The proposed amount is a substantial reduction of 14% on a per capita basis compared to the previous year, and is equivalent to the 14% decrease in the overall Group performance award pool. The pool also reflects the changes in the composition of the GEB, including new GEB members and the elevation of certain roles to the GEB that were previously not included, and therefore the adjustments do not reflect a meaningful change in the total cost to shareholders. These changes were made to optimize our governance structure and execute on our strategic priorities.
GEB fixed compensation	The Board of Directors proposes a maximum aggregate amount of fixed compensation of CHF 33,000,000 for the members of the GEB for the financial year 2021.	The proposed amount is unchanged from the previous year, reflecting stable base salaries for the Group CEO and other GEB members since 2011. As noted above, it further reflects the changes in the composition of the GEB, including new GEB members and the elevation of certain roles to the GEB that were previously not included, and therefore the adjustments do not reflect a meaningful change in the total cost to shareholders. These changes were made to optimize our governance structure and execute on our strategic priorities. The proposed amount hence reduces the reserve amount while still providing the necessary flexibility in light of evolving EU regulations, Brexit and competitive considerations for a potential additional role-based allowance.
BoD compensation	The Board of Directors proposes a maximum aggregate amount of compensation of CHF 13,000,000 for the members of the Board of Directors for the period from the 2020 AGM to the 2021 AGM.	The proposed amount is a decrease of 10%, or CHF 1,500,000, compared with the previous year. The amount includes the Chairman's compensation, which decreased by 14% effective from the 2019 AGM, as well as the reduced fees for independent Board members, which will be adjusted effective from the 2020 AGM. This includes a reduction of the fixed base fees for all independent Board members and other fee reductions. The adjustments in Board fees reflect our commitment to sustainable results while maintaining competitive fee levels aligned with the demands on our Board members.

Compensation philosophy and framework

Our compensation philosophy

Total Reward Principles

Our compensation philosophy is to align the interests of our employees with those of our investors and clients, building on our three keys to success: our Pillars, Principles and Behaviors. Our Total Reward Principles establish a framework that balances sustainable performance as well as supporting growth ambitions and prudent risk-taking with a focus on conduct and sound risk management practices.

Our compensation structure is aligned with our strategic priorities. It aligns the interests of our employees with those of our stakeholders and encourages our employees to focus on our clients, create sustainable value, deliver on our growth ambitions and achieve the highest standards of performance. Moreover, we reward behaviors that help build and protect the firm's reputation, specifically integrity, collaboration and challenge. We strive for client focus, excellence and sustainable performance in everything we do. Compensation for each employee is based on individual, team, business division and Group performance, within the context of the markets in which we operate.

Total Reward Principles

Our Total Reward Principles apply to all employees globally. They may vary in certain locations according to local legal requirements and regulations. The table below provides a summary of our Total Reward Principles.

Attract and retain a diverse, talented workforce	We provide employees with pay that is fair, reflecting equal treatment of employees, appropriately balanced between fixed and variable elements, competitive in the market and delivered over an appropriate period.
Foster effective individual performance management and communication	Thorough evaluation of individual performance and adherence to our Behaviors, combined with effective communication, aims to ensure there is a direct connection between achievement of business objectives and compensation across the firm.
Align reward with sustainable performance as well as support growth ambitions	We embrace a culture of inclusiveness and collaboration within the firm. Our approach to compensation fosters engagement among employees, and serves to align their long-term interests with those of clients and stakeholders.
Support appropriate and controlled risk-taking	Compensation is structured such that employees behave in a manner consistent with the firm's risk framework and tolerance, thereby protecting our capital and reputation, and enhancing the quality of our financial results, in line with what our stakeholders expect from us.

Our commitment to pay fairness

Pay fairness principles are embedded into our compensation policies and practices and we conduct regular reviews with the aim of ensuring that we appropriately evaluate and reward employees.

From a pay equity perspective, if we uncover any gaps that cannot be explained by business factors, such as experience, role / job, responsibility, performance or location, we explore the root causes of those gaps and address them. In 2019, an independent third party conducted a pay analysis across the globe which showed less than 1% of unexplained differential in salaries between female and male employees across the firm.

Pay equity is not the same as the gender pay gap, which looks at the average pay for all women versus all men. Our gender pay gap reflects a representation gap brought about by having unequal numbers of men and women at each level at UBS, with a greater proportion of men in more senior, higher-paying roles. The gender representation gap is being addressed through our global gender strategy to hire more, promote more and retain more women at all levels of the organization.

Addressing gender representation is a priority we share with many other organizations, both within financial services and other sectors. To share best practices, learn from peers and receive feedback, we are actively involved with initiatives such as the Bloomberg Gender-Equality Index.

Our Total Reward approach

At UBS, we apply a holistic approach to compensation. Our Total Reward approach consists of fixed compensation (base salary and role-based allowances, if applicable), performance awards as well as pension contributions and benefits.

For employees whose total compensation exceeds USD / CHF 300,000, performance awards are delivered in a combination of cash and a deferral into contingent capital awards (the DCCP) and equity awards (the LTIP and the EOP). For our most senior leaders, i.e., GEB members, Group Managing Directors (GMDs) and Group or Divisional Vice Chair role holders, the equity awards are delivered under the LTIP. All other employees eligible for deferred equity awards receive these awards under our EOP.

Our Total Reward approach is structured to support sustainable results and growth ambitions. A substantial portion of our performance award is deferred and vests over a period of five years, or longer for certain regulated employees. This deferral approach supports alignment of employee and investor interests, our capital base and the creation of sustainable shareholder value.

Note: illustrative, not drawn to scale

Performance award pool funding

Our compensation philosophy focuses on balancing performance with appropriate risk-taking and retaining talented employees. To achieve this, as performance increases we reduce our overall performance award funding percentage. In years of strong performance, this prevents excessive compensation, resulting in an increased proportion of profit before performance award being available for distribution to shareholders or growing the Group's capital. In years where performance declines, the performance award pool will generally decrease; however, the funding percentage may increase.

Our performance award pool funding framework is based on Group and business division performance, including achievement against a set of performance targets. We also consider performance relative to industry peers, general market competitiveness and progress against our strategic objectives, including returns, capital growth, as well as risk-weighted assets and cost efficiency. We look at the firm's risk profile and culture, the extent to which operational risks and audit issues have been identified and resolved, and the success of risk reduction initiatives. Corporate Center funding is linked to overall Group performance and reflects headcount, workforce location and demographics. For each functional area, quantitative and qualitative assessments evaluate service quality, risk management and financial achievements.

Before making its final recommendation to the BoD, the Compensation Committee considers the CEO's proposals and can apply a positive or negative discretionary adjustment to the performance award pool, including recommending a zero award. The Compensation Committee decision balances consideration of financial performance with a range of qualitative factors and takes into account the quality of earnings, progress against our ambitions, impact of risk management, litigation, regulatory costs, the effect of changes in financial accounting standards, capital returns and market competitiveness, as well as relative total shareholder return.

As described above, reflecting the aforementioned considerations, over the past seven years, the Compensation Committee based on the Group CEO proposal applied discretionary adjustments to the performance award pool of between –6% and +2%, resulting in downward adjustments in all but one year.

→ **Refer to "Group performance" in the "Financial and operating performance" section of this report for more information about adjusted results**

Performance award pool funding process – illustrative overview

1	**Adjusted business division financial performance**	The starting point for the funding process is the adjusted business division financial performance, which excludes items that are not reflective of the underlying business performance.
2	**Risk-adjusted business division performance award pool**	Predetermined business division-specific funding rates are applied to risk-adjusted performance, incorporating market, credit, liquidity and operational (including conduct) risk.
3	**Business division measures**	Each division is assessed based on specific measures (e.g., net new money growth rate, return on attributed equity).
	Qualitative, risk and regulatory assessment	Qualitative assessment (e.g., quality of earnings, ESG factors), assessment of regulatory compliance and risk assessment (such as legal, compliance, reputational and operational risk) support alignment to our Total Reward Principles.
	Relative performance versus peers	Performance is assessed relative to our peers, including financial performance, returns and relative total shareholder return.
	Market position and trends	Market intelligence, based on external advisors, helps assess the competitiveness of our pay levels and compensation structure. It also provides a prospective view of market trends in terms of absolute compensation levels, compensation framework and industry practice.
4	**Recommended business division performance award pools**	The business division performance award pool determination process, based on quantitative and qualitative assessments, results in a recommendation from the Group CEO (after consultation with the GEB) to the Compensation Committee for consideration.
5	**Final Group performance award pool**	The Compensation Committee considers the recommendation in the context of the factors outlined above and verifies it is in line with our strategy and our Total Reward Principles to create sustainable shareholder value and support our growth ambitions. The Committee may alter the recommendations of the Group CEO (upward or downward, including recommending a zero award) before making its final recommendation to the BoD.

Environmental, Social and Governance (ESG) at UBS

UBS made very good progress in 2019 toward enhancing its position as a leader in sustainable finance, and toward meeting its ambitions to be a recognized innovator and thought leader in philanthropy, an industry leader in sustainable business practices, and an employer of choice. We are pleased that our efforts and accomplishments continue to be recognized. We were recognized as the industry leader, for the fifth time in a row, in the Dow Jones Sustainability Indices (the DJSI), the most widely recognized sustainability ranking, and received other valuable recognition from MSCI, Sustainalytics and CDP.

UBS continues to maintain an industry-leading position in developing sustainable finance products and services: we are a leader in sustainable investing,[1] with a global footprint and a network of resources to deliver a wide range of research, advisory and product capabilities that continue to grow. An important part of our sustainable activities encompasses engagement in client philanthropy: for example through UBS Optimus Foundation we drive impactful philanthropy that delivers breakthrough solutions to pressing social needs.

We are widely recognized as an employer of choice and received various top-employer honors in 2019. Our diverse workforce and inclusive culture are critical to our long-term success. We are committed to further increasing our diversity and to ensuring equal opportunities for all employees. We continue to make progress toward our stated aspiration to increase the representation of women in management roles to one-third. In addition to our global gender diversity ambitions, every year we sponsor numerous activities to promote greater diversity and inclusiveness.

We measure our culture-building progress through regular employee surveys. We have an ongoing focus on inclusive leadership and, in 2019, our in-house UBS University further updated its curriculum to emphasize future-skills development and personal growth for all employees. The table below summarizes our key achievements and the following section explains how we consider ESG in the compensation determination process.

→ **Refer to "Our focus on ESG," "Employees" and "Society" in the "How we create value for our stakeholders" section of this report for more information**

→ **Refer to *www.ubs.com/gri* for more information about ESG-related topics**

[1] Euromoney Private Banking and Wealth Management Survey 2019: Global Results.

Our achievements	
Sustainable finance	– Achieved our goal one year early, reaching USD 488.5 billion in core SI assets, representing 13.5% of total invested assets – USD 3.9 billion of client assets directed into Sustainable Development Goals (SDG)-related impact investments
Philanthropy	– 38% of global workforce volunteered and 48% of volunteer hours were skills based – 280,858 beneficiaries as a result of our community investments – UBS Optimus Foundation: USD 89.5 million in donations raised; USD 109.5 million in grants approved – Well-being of 3.3 million children globally improved with help of the work of UBS Optimus Foundation
Sustainable business practices	– Industry leadership position maintained (Dow Jones Sustainability Indices / DJSI) – AA rating maintained (MSCI ESG Research) – Industry leader rank maintained (Sustainalytics) – A-rating and included in Leadership band (CDP) – First TCFD reporting introduced for financial year 2017, continuous improvements ever since – Among the founding signatories of the Principles for Responsible Banking (September 2019)
Employer of choice	– Included in Global Universum ranking of Top 50 World's Most Attractive Employers – Peer-leading position in human resources elements of DJSI – Score above financial services norm in employee engagement and work environment (based on employee survey results) – Included in the Bloomberg Gender-Equality Index

ESG in the compensation determination process

ESG is considered in the compensation determination process in different phases through objective setting, performance award pool funding, performance assessment and compensation decision.

At the beginning of the year, objectives relative to Group, business divisions, Pillars, Principles and Behaviors are set. ESG-related objectives have been embedded in our Pillars and Principles since they were established in 2011. This long-term focus on ESG topics is reflected in the achievements outlined above. To maintain the focus on these important ESG topics, our Group CEO and other GEB members have specific ESG-aligned goals under Pillars and Principles, including governance and risk management, talent management and diversity, client satisfaction and corporate responsibility. These include goals for reducing our carbon footprint and corporate waste, and progressing our philanthropic efforts.

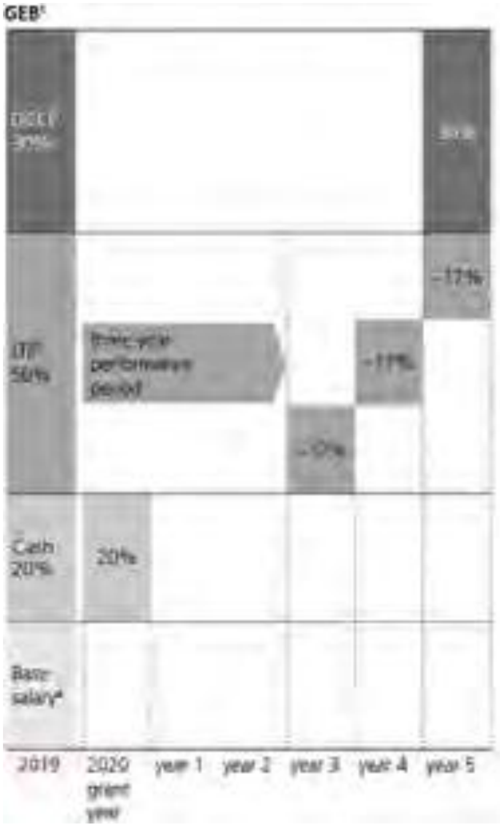
In the performance award pool funding, ESG is reflected through the assessment of risks, such as legal, compliance, reputational and operational risks. Therefore ESG is taken into consideration when the Compensation Committee assesses not only what results were achieved, but also how they were achieved. The achievements versus the ESG-related goals are reflected in the qualitative performance assessment and affect the final compensation decision.

Compensation framework for GEB members

The chart below illustrates the compensation elements, pay mix and key features for GEB members.

2019 compensation framework for GEB members (illustrative example)

With regard to annual performance awards, 20% is paid in the form of cash and 80% will be deferred over a period of five years,[1] with 50% of the annual performance awards granted under the LTIP and 30% under the DCCP.



Key features

- Notional additional tier 1 (AT1) instruments
- 30% of the performance award is granted under the DCCP
- Award vests in year 5 after grant year, subject to write-down if a trigger or viability event occurs
- Award is subject to 20% forfeiture for each financial year if UBS does not achieve a reported Group profit before tax, adjusted for disclosed items generally not representative of underlying business performance
- Notional interest payments (granted where applicable regulations permit) will be made annually, subject to review and confirmation by the firm
- Award is subject to continued employment and harmful acts provisions

- Notional shares
- 50% of the performance award is granted under the LTIP
- Award vests in equal installments in years 3, 4 and 5 after grant year, depending on the achievement of RoCET1 and rTSR measured over a three-year performance period[2]
- Dividend equivalents (granted where applicable regulations permit) are subject to the same terms as the underlying LTIP award
- Award is subject to continued employment and harmful acts provisions

- 20% of the performance award is paid out in cash[3]

1 Senior Management Functions Holders (SMFs) have extended deferral periods, with the deferred performance awards vesting no faster than pro rata between years 3 and 7. SMFs and Material Risk Takers (MRTs) have an additional 12-month blocking period on their awards post vest. 2 Due to regulatory requirements, LTIP awards granted to UK MRTs and SMFs will be subject to an additional non-financial conduct-related metric with a downward adjustment of up to 100% of the entire award. 3 SMFs and MRTs receive 50% in the form of immediately vested shares which are blocked for 12 months. 4 May include role-based allowances in line with market practice and regulatory requirements.

Pay for performance safeguards for GEB members

Performance award caps	– Cap on total GEB performance award pool (2.5% of adjusted profit before tax) – Caps on individual performance awards (for the Group CEO capped at five times the fixed compensation and at seven times for the other GEB members) – Cap of 20% of performance award in cash
Delivery and deferral	– 80% of performance awards are at risk of forfeiture – Long-term deferral over five years (or longer for certain regulated GEB members) – Alignment with shareholders (through the LTIP) and bondholders (through the DCCP) – Final payout of equity-based LTIP award (50% of performance award) subject to absolute and relative performance conditions (three-year performance period) – For certain GEB members, a portion of their 2019 compensation is additionally at risk and directly linked to the final resolution of the French cross-border matter
Contract terms	– No severance terms – Six-month notice period
Other safeguards	– Share ownership requirements – No hedging strategies allowed

GEB share ownership requirements

To align the interests of GEB members with those of our shareholders and to demonstrate commitment to the firm, we require the Group CEO and the other GEB members to hold a substantial number of UBS shares. GEB members must build up their minimum shareholding within five years from their appointment and retain it throughout their tenure. The total number of UBS shares held by a GEB member consists of any vested or unvested shares and any privately held shares. GEB members may not sell any UBS shares before they reach the minimum ownership thresholds mentioned below. At the end of 2019, GEB members met their share ownership requirements, except for those appointed within the last four years, who need to build up and meet the required share ownership level within five years from appointment.

Our GEB member holdings represent approximately USD 169 million in shareholder value. This ownership level demonstrates their commitment to our strategy and alignment with shareholders.

Share ownership requirements

Group CEO	min. 1,000,000 shares	Must be built up within five years from their appointment and retained throughout their tenure.
Other GEB members	min. 500,000 shares	

Caps on the GEB performance award pool

The size of the GEB performance award pool may not exceed 2.5% of the adjusted Group profit before tax. This limits the overall GEB compensation based on the firm's profitability.

For 2019, the Group's adjusted profit before tax was USD 6.0 billion and the total GEB performance award pool was USD 70.7 million. The GEB performance award pool as a percentage of adjusted Group profit before tax was 1.2%, which is well below the cap of 2.5%.

In line with the individual compensation caps on the proportion of fixed pay to variable pay for all GEB members (introduced in 2013), the Group CEO's granted performance award is capped at five times his fixed compensation. Granted performance awards of other GEB members are capped at seven times their fixed compensation (or two times for GEB members who are also Material Risk Takers (MRTs)). For 2019, performance awards granted to GEB members and the Group CEO were, on average, 2.5 times their fixed compensation (excluding one-time replacement awards, benefits and contributions to retirement benefit plans).

GEB employment contracts and severance terms

The employment contracts of the GEB members do not include severance terms or supplementary pension plan contributions. All employment contracts for GEB members are subject to a notice period of six months. A GEB member leaving the firm before the end of a performance year may be considered for a performance award during that performance year included in the GEB performance award pool approved by shareholders. Such awards are subject to approval by the BoD, which may decide not to grant any awards, and ultimately by the shareholders at the AGM.

Benchmarking for the Group CEO and other GEB members

When recommending performance awards for the Group CEO and the other GEB members, as one dimension to consider, the Compensation Committee reviews the respective total compensation for each role against a financial industry peer group. The peer group is selected based on comparability of their size, business mix, geographic presence and the extent to which they compete with us for talent. The Compensation Committee considers our peers' strategies, practices and pay levels, as well as their regulatory environment; it also periodically refers to other firms' pay levels or practices, including both financial and non-financial sector peers as applicable. The total compensation for a GEB member's specific role considers the compensation paid by our peers for a comparable role and performance within the context of our organizational profile. The Compensation Committee periodically reviews and approves the peer group for executive compensation.

The table below presents the composition of our peer group for 2019, which has been reviewed and approved by the Compensation Committee for the performance year 2019.

Bank of America	Goldman Sachs
Barclays	HSBC
BlackRock	JPMorgan Chase
BNP Paribas	Julius Baer
Citigroup	Morgan Stanley
Credit Suisse	Standard Chartered
Deutsche Bank	State Street

How the French cross-border litigation matter affects our compensation decisions for 2019

In February 2019, the Paris Court of First Instance imposed fines of EUR 3.7 billion on UBS, and awarded the French state civil damages of EUR 800 million. This judgment was issued in connection with a litigation matter related to cross-border business activities with French residents between 2004 and 2011/2012. UBS has appealed the decision of the Court of First Instance, and it will still take time for this matter to be finally concluded.

The BoD and the GEB continue to focus on progressing and resolving the French matter. Both of them are accountable for a resolution of this legacy matter in the best interest of shareholders.

When determining the 2019 performance award pool, the impact of the French matter on the firm was taken into consideration. Additionally, this was also considered in individual performance assessments and compensation decisions as applicable.

→ **Refer to "Note 21 Provisions and contingent liabilities" in the "Consolidated financial statements" section of this report for more information about litigation, regulatory and similar matters**

Existing principles and approach for considering litigation in the performance and compensation process

Litigation and regulatory matters, and their remediation and resolution, are taken into consideration in the compensation decision-making process. The Compensation Committee distinguishes between current matters, where the underlying issues are within the responsibility of management, and legacy matters, where management is accountable for resolving them but not responsible for the underlying issues.

Current matters have a direct impact on the performance award pool, the performance assessment and resulting compensation decision, as well as the payout of deferred awards. For legacy matters, current management is incentivized to effectively and efficiently resolve these matters in the best interest of the shareholders. In this regard, it is important to distinguish between legacy matters, and financial and operating performance for the year. At the same time, we are mindful of the potential costs of such matters, the prudent management thereof, and the effect on our share price. Therefore the performance and compensation assessment reflect management's impact on achieving an effective resolution without creating an incentive to inappropriately settle or take risks with regard to such matters.

Enhancements to our approach

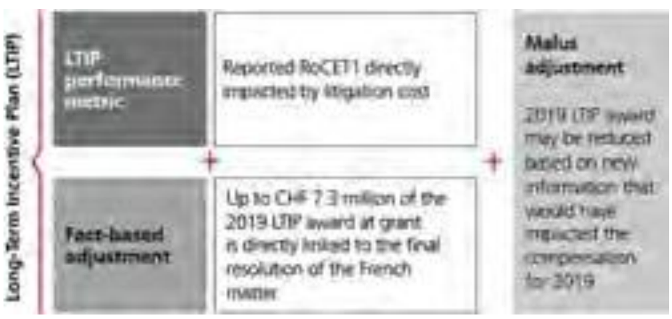
For 2019, the Compensation Committee has taken additional measures to demonstrate the accountability of management and their alignment with shareholders regarding the outcome of the French cross-border matter.

Share price movements affect all employees with deferred equity-based awards. With respect to the performance conditions on the LTIP awards, provisions for legal, regulatory and similar matters will directly impact the reported RoCET1 metric and thus also the final vesting amount subject to this performance condition. This metric accounts for 50% of the final payout under the 2019 LTIP. The use of reported RoCET1 supports the focus on ensuring the cost of litigation matters has a direct impact on the compensation realized by our senior leaders including the GEB.

For GEB members active in March 2017, when the investigating judges issued the trial order, as an added measure, the 2019 LTIP awards will be subject to the following considerations impacting their 2019 compensation.

- Up to an additional CHF 7.9 million or 30% of the 2019 LTIP awards at grant for relevant GEB members as well as the Chairman's unvested share award are at risk and directly linked to the final resolution of the French matter. The portion at risk is subject to forfeiture based on the final cost associated with the resolution of the matter. If the French matter is unresolved at the time the 2019 award is expected to vest, 30% of the LTIP shares will continue to be at risk, contingent upon the final resolution of this matter.
- Finally, a new malus clause has been introduced, which provides the Compensation Committee with the opportunity to assess any new information that becomes available in the future. If the Compensation Committee determines that the new information would have impacted its 2019 performance award decisions had the information been known at the time, it can retrospectively reduce the 2019 LTIP grant by up to the full amount.

Impact of litigation matters on the Long-Term Incentive Plan



Compensation framework for employees other than GEB members

Employees other than GEB members that receive performance awards with total compensation exceeding USD / CHF 300,000 are subject to a mandatory deferral framework, under which a significant portion of the performance award is deferred over a period of five years, or longer for certain regulated employees. The deferred amount increases at higher marginal rates in line with the value of the performance award. The effective deferral rate therefore depends on the amount of the performance award and the amount of total compensation.

The deferred compensation is delivered through three plans, which are described in detail later in this section: the DCCP (notional additional tier 1 capital instruments), the LTIP and the EOP (notional shares).

For Group Managing Directors (GMDs), 50% of the deferred performance award is granted under the LTIP and 50% under the DCCP. The LTIP award vests in year 3 after the grant year, while the DCCP award vests in year 5 after the grant year, the same as for GEB members. For below-GMD employees, 60% of the deferred performance award is granted under the EOP and 40% under the DCCP. The EOP award vests in equal installments in years 2 and 3 after the grant year, while the DCCP award vests in year 5 after the grant year.

Asset Management (AM) GMDs and employees in investment areas have a different deferral and plan mix to align their compensation more closely with industry standards. Therefore AM GMDs receive 50% of their deferred performance awards in notional funds under the AM EOP, 25% under the LTIP and 25% under the DCCP. AM employees below GMD in investment areas continue to receive 75% of their deferred performance awards in notional funds under the AM EOP and 25% under the DCCP, while AM employees below GMD in non-investment areas continue to receive 50% of their deferral under the AM EOP plus 25% under the EOP and 25% under the DCCP.

Certain regulated employees, such as Senior Management Functions (SMFs) and Material Risk Takers (MRTs), are subject to additional requirements (e.g., an additional non-financial conduct-related performance metric under the LTIP, more stringent deferral requirements, additional blocking periods). In addition, SMFs and MRTs receive 50% of their cash portion in the form of immediately vested shares which are blocked for 6 to 12 months.

Benchmarking for employees other than GEB members

We generally consider market practice in our pay decisions and framework. Our market review reflects a number of factors, including the comparability of the business division, location, scope and the diversity of our businesses. For certain businesses or roles, we may take into account practices at other major international banks, other large Swiss private banks, private equity firms, hedge funds and non-financial firms. Furthermore, we also benchmark employee compensation internally for comparable roles within and across business divisions and locations.

Employee share purchase program

The Equity Plus Plan is our employee share purchase program. It allows employees below the rank of Managing Director to voluntarily defer up to 30% of their base salary and/or up to 35% of their performance award (up to USD / CHF 20,000 annually) for the purchase of UBS shares. Eligible employees may buy UBS shares at market price and receive one additional share for every three shares purchased through the program. The additional shares vest after a maximum of three years, provided the employee remains employed with the firm and has retained the purchased shares throughout the holding period.

Considering available records on employee shareholdings including unvested deferred compensation, as of 31 December 2019, employees held at least USD 2.5 billion of UBS shares (of which approximately USD 1.8 billion were unvested), representing approximately 6% of our total shares issued. Our senior leaders (GEB members and GMDs) held approximately USD 410 million of UBS shares (of which approximately USD 272 million were unvested).

→ **Refer to "Note 30 Employee benefits: variable compensation" in the "Consolidated financial statements" section of this report for more information**

Compensation for US financial advisors in Global Wealth Management

In line with market practice for US wealth management businesses, the compensation for US financial advisors in Global Wealth Management is comprised of production payout and deferred compensation awards. Production payout, paid monthly, is primarily based on compensable revenue. Financial advisors may also qualify for deferred compensation awards, which generally vest over a six-year period. The awards are based on strategic performance measures, including production, length of service with the firm and net new business. Production payout rates and deferred compensation awards may be reduced for, among other things, errors, negligence or carelessness, or a failure to comply with the firm's rules, standards, practices, policies and/or applicable laws and regulations.

Compensation elements for all employees

Overall, we look across all elements of pay when making our decisions on total compensation. We regularly review our principles and compensation framework to remain competitive and aligned with stakeholders. For 2019, we enhanced our framework by introducing the LTIP, the details of which are outlined in this section. We will continue to review our approach to salaries and performance awards in light of market developments, our performance and our commitment to deliver sustainable returns to our shareholders.

Base salary and role-based allowance

Employees' fixed compensation (e.g., base salary) reflects their level of skill, role and experience, as well as local market practice. Base salaries are usually paid monthly or fortnightly in line with local market practice. We offer our employees competitive base salaries that reflect their location, function and role. Salary increases generally consider promotions, skill set, performance and overall responsibility.

Each GEB member receives a fixed base salary, which is reviewed annually by the Compensation Committee. The Group CEO's annual base salary for 2019 was CHF 2.5 million and has remained unchanged since his appointment in 2011. The other GEB members each received a base salary of CHF 1.5 million (or local currency equivalent), also unchanged since 2011.

In addition to a base salary and as part of fixed compensation, some employees may receive a role-based allowance. This allowance represents a shift in the compensation mix between fixed and variable compensation and not an increase in total compensation. It reflects the market value of a specific role and is fixed, non-forfeitable compensation. Unlike salary, a role-based allowance is paid only as long as the employee is in a specific role. Similar to previous years, 2019 role-based allowances consisted of a cash portion and, where applicable, a blocked UBS share award.

Two GEB members are considered Material Risk Takers (MRTs), including one UK Senior Management Function (SMF), for UK / EU entities due to their impact on those entities regardless of personal domicile. In addition to base salary, role-based allowances are part of their fixed compensation.

At the AGM, shareholders are asked to approve the maximum aggregate amount of fixed compensation for the members of the GEB for the following financial year. The amount requested includes a reserve to consider potential future changes in GEB composition or role changes, and potential additional role-based allowances.

→ **Refer to the "Supplemental information" section of this report for more information about MRTs and SMFs**
→ **Refer to the "Shareholder engagement and say on pay" section of this report for more information about the shareholders' vote on GEB compensation**

Pensions and benefits

We offer certain benefits for all employees, such as health insurance and retirement benefits. These benefits vary depending on the employee's location and are intended to be competitive in each of the markets in which we operate. Pension contributions and pension plans also vary across locations and countries in accordance with local requirements and market practice. However, pension plan rules in any one location are generally the same for all employees, including management.

For GEB members, pension contributions and benefits are in line with local practices for other employees. No enhanced or supplementary pension contributions exist for the GEB.

Performance award

Most of our employees are eligible for an annual performance award. The level of the award, where applicable, generally depends on the firm's overall performance, the employee's business division, team and individual performance, and behavior, reflecting their overall contribution to the firm's results. They are awarded in line with applicable local employment conditions and at the discretion of the firm.

In addition to the firm's Pillars and Principles, Behaviors related to integrity, collaboration and challenge are part of the performance management approach. Therefore, when assessing performance, we take into account not only what was achieved, but also how those results were achieved.

Our deferred compensation plans

To reinforce our emphasis on sustainable performance, risk management and focus on achieving our growth ambitions, we deliver part of our annual variable compensation through a deferral. We believe our approach with a single incentive decision and a deferral is simple, transparent, and is best suited to implementing our compensation philosophy and delivering sustainable performance. This aligns the interests of our employees and shareholders and appropriately links compensation to longer-term sustainable performance.

Deferred compensation is delivered through a combination of equity-based plans and a contingent capital plan. The equity-based plans are: (i) the Long-Term Incentive Plan (the LTIP), which is for the most senior leaders of our organization, i.e., GEB members, GMDs and Group or Divisional Vice Chair role holders, and supports delivering profitable growth to drive higher returns and create long-term value for our shareholders; and (ii) the Equity Ownership Plan (the EOP), which is for all other employees, and which primarily aligns employees' interests with those of our shareholders. The Deferred Contingent Capital Plan (the DCCP) aligns employees' interests with those of debt holders. We believe our deferral regime has one of the longest vesting periods in the industry. The average deferral period is 4.4 years for GEB members, 4 years for GMDs and 3.5 years for employees below GEB / GMD level.

To further promote sustainable performance, our deferred compensation components include malus conditions. These enable the firm to forfeit unvested deferred awards under certain circumstances, pursuant to performance and harmful acts provisions.

Deferred awards granted to our most senior employees and to Highly Paid Employees (employees with a total compensation exceeding USD / CHF 2.5 million), Key Risk Takers (KRTs) and other selected employees are subject to performance conditions.

→ **Refer to "Note 30 Employee benefits: variable compensation" in the "Consolidated financial statements" section of this report for more information**

→ **Refer to the "Supplemental information" section of this report for more information about MRTs and SMFs**

→ **Refer to "Vesting of outstanding awards granted in prior years subject to performance conditions" in the "Supplemental information" section of this report for more information**

Long-Term Incentive Plan

The Long-Term Incentive Plan (the LTIP) is a mandatory deferral plan for senior leaders of the Group (i.e., GEB members, GMDs and Group or Divisional Vice Chair role holders). For the performance year 2019, we granted LTIP awards to 119 employees at a fair value of 62.25% of maximum, which is based on the methodology used to determine the expense to the organization under IFRS 2 standards. The value was independently calculated to support the robustness of the approach, which uses a well-established valuation methodology.

The performance metrics of the equity-based LTIP awards are average reported return on CET1 capital (RoCET1) and relative total shareholder return (rTSR) over a three-year performance period starting in the year of grant. Performance outcomes and actual payout levels will be disclosed at the end of the performance period.

Performance metric	Weight	Threshold	Maximum
RoCET1	50%	6%	18%
rTSR vs G-SIBs Index	50%	–25 pps	+25 pps
Payout level		33%	100%

Note: Linear payout between threshold and maximum performance. SMFs and UK MRTs are subject to an additional non-financial metric based on a conduct assessment.

The three-year average reported RoCET1 performance metric reflects our strategic return ambitions:
– the required RoCET1 performance for a maximum payout is set at 18%, which represents a stretch objective relative to our communicated ambitions;
– the required performance threshold of 6% for the minimum payout supports our focus on delivering sustainable results and appropriate risk-taking;
– this approach significantly increases the level of RoCET1 performance required to achieve a payout that is equal to the award value relative to our legacy approach under the EOP; and
– the linear payout design between the threshold and the maximum level reflects our focus on sustainable performance while also supporting our growth ambitions. This design does not encourage excessive risk-taking, as might be the case with a non-linear payout geared toward high performance levels.

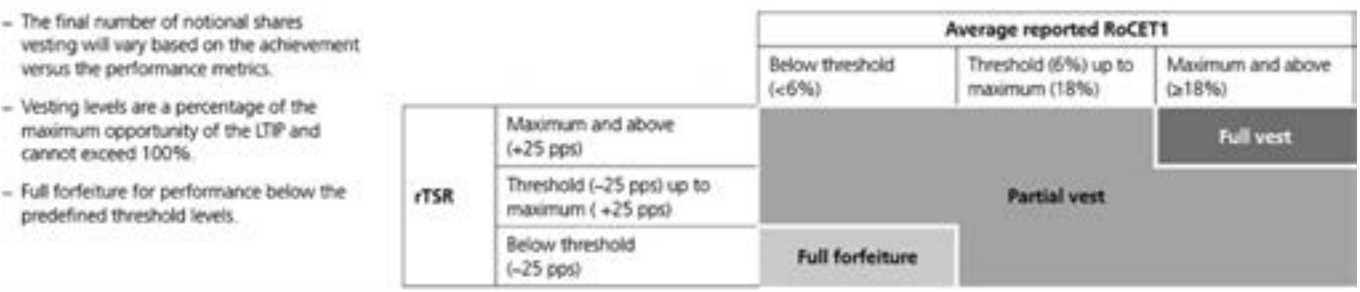
The rTSR performance metric over the three-year period further aligns the interests of employees with shareholders:
– the metric compares the TSR of UBS with the TSR of an index consisting of Global Systemically Important Banks (G-SIBs) as determined by the Financial Stability Board;
– the G-SIBs have been selected because they are independently defined and reflect companies with a comparable risk profile and impact on the global economy;
– the index, which includes publicly traded G-SIBs, is equal weighted, calculated in Swiss francs, and maintained by an independent index provider to increase transparency and ensure independence of the TSR calculation; and
– the payout interval of ±25 percentage points versus the index performance demonstrates our ambition to deliver attractive relative returns to our shareholders. The linear payout and the threshold level set below index performance further support sustainability of results and prudent risk-taking.

Global Systemically Important Banks (G-SIBs) listed companies peer group[1]		
Agricultural Bank of China	Goldman Sachs	Santander
Bank of America	Groupe Crédit Agricole	Société Générale
Bank of China	HSBC	Standard Chartered
Bank of New York Mellon	ING Bank	State Street
Barclays	ICBC	Sumitomo Mitsui FG
BNP Paribas	JPMorgan Chase	Toronto-Dominion
China Construction Bank	Mitsubishi UFJ FG	UniCredit
Citigroup	Mizuho FG	Wells Fargo
Credit Suisse	Morgan Stanley	
Deutsche Bank	Royal Bank of Canada	

1 As of November 2019.

The LTIP award reflects the long-term focus of our compensation framework. The final number of shares as determined at the end of the three-year performance period will vest in three equal installments in each of the three years following the performance period for GEB members, and cliff-vest in the first year following the performance period for GMDs and Group or Divisional Vice Chair role holders.

LTIP payout illustration



Equity Ownership Plan

The Equity Ownership Plan (the EOP) is a mandatory deferral plan for all employees with total compensation greater than USD / CHF 300,000, other than GEB members, GMDs and Group or Divisional Vice Chair role holders. For the performance year 2019, we granted EOP awards to 3,558 employees.

The plan includes provisions that allow the firm to reduce or fully forfeit the unvested deferred portion of a granted EOP award if an employee commits certain harmful acts, and in most cases trigger forfeiture where employment has been terminated.

The award vests in equal installments in years 2 and 3 after grant year. For Key Risk Takers (KRTs) (including Highly Paid Employees) and Senior Management Functions (SMFs), the EOP awards granted will only vest if both Group and business division performance conditions are met. The Group performance condition is based on the average reported return on CET1 capital (RoCET1) over the applicable performance period. The Compensation Committee sets the minimum future performance thresholds at levels to demonstrate that the long-term quality of the past year's performance is sustainable. Once set, the thresholds remain in place for that particular award year. The Compensation Committee also determines whether the performance conditions have been met.

The Group performance condition is based on the average reported RoCET1. If the outcome is equal to or above the threshold, the award will vest in full, or if it is between 0% and the threshold, it will vest on a linear basis at 0–100%. In both cases, vesting is contingent on the relevant business division performance condition also being met. If the outcome is 0% or negative, the installment will be fully forfeited regardless of any business division performance.

Similarly, business division performance is measured on the basis of their average return on attributed equity (RoAE) adjusted for disclosed items generally not representative of underlying business performance. For Corporate Center employees, it is measured on the basis of the average operating businesses' RoAE adjusted for disclosed items generally not representative of underlying business performance. If the threshold is met, the award will vest in line with the Group performance achievement. If the outcome is 0% or below, the respective awards are fully forfeited. If it is between 0% and the respective threshold, the awards are subject to forfeiture of up to 40%. Finally, the Compensation Committee retains discretion to adjust the award if the performance metric does not reflect a fair measure of performance.

One of our key objectives is to deliver sustainable performance, and therefore we link the EOP award vesting with minimum performance thresholds over a multi-year time horizon. Our EOP awards have no upward leverage, and this approach promotes sustainable performance by establishing a minimum level of performance, below which awards are subject to full or partial forfeiture.

→ **Refer to "Vesting of outstanding awards granted in prior years subject to performance conditions" in the "Supplemental information" section of this report for more information**

Deferred Contingent Capital Plan

The Deferred Contingent Capital Plan (the DCCP) is a mandatory deferral plan for all employees with total compensation greater than USD / CHF 300,000. For the performance year 2019, we granted DCCP awards to 3,654 employees.

Employees are awarded notional additional tier 1 (AT1) capital instruments, which, at the discretion of the firm, can be settled as either a cash payment or a perpetual, marketable AT1 capital instrument. Prior to granting, employees can elect to have their DCCP awards denominated in either Swiss francs or US dollars.

DCCP awards vest in full after five years and up to seven years for SMFs, unless there is a trigger event. Awards are forfeited if a viability event occurs, i.e., if FINMA notifies the firm in writing that the DCCP awards must be written down to prevent an insolvency, bankruptcy or failure of UBS, or if the firm receives a commitment of extraordinary support from the public sector that is necessary to prevent such an event. Additionally, they are written down for GEB members if the Group's common equity tier 1 (CET1) capital ratio falls below 10% and for all other employees if it falls below 7%.

As an additional performance condition, GEB members forfeit 20% of their award for each loss-making year during the vesting period. This means that 100% of the award is subject to risk of forfeiture. Like the EOP, the DCCP also has provisions that allow the firm to apply malus conditions on some, or all, of the unvested deferred portion of a granted award if an employee commits certain harmful acts, or, in most cases, trigger forfeiture where employment has been terminated.

Under the DCCP, employees who are not MRTs may receive discretionary annual notional interest payments. The notional interest rate for grants in 2020 was 1.50% for awards denominated in Swiss francs and 3.90% for awards denominated in US dollars. These interest rates are based on the current market rates for similar AT1 capital instruments. Notional interest will be paid out annually, subject to review and confirmation by the Compensation Committee.

Over the last five years, USD 2.0 billion of DCCP awards were issued, contributing to the Group's total loss-absorbing capacity (TLAC). Therefore, DCCP awards not only support competitive pay, but also provide a loss absorption buffer that protects the firm's capital position. The following table illustrates the contribution of the DCCP to our AT1 and tier 2 capital as well as to our TLAC ratio.

→ **Refer to the "Supplemental information" section of this report for more information about performance award- and personnel-related expenses**

→ **Refer to the "Supplemental information" section of this report for more information about longer vesting and clawback periods for MRTs and SMFs**

Contribution of the Deferred Contingent Capital Plan to our loss-absorbing capacity[1]

USD million, except where indicated	31.12.19	31.12.18	31.12.17
Deferred Contingent Capital Plan (DCCP)	1,962	2,005	2,160
of which: high-trigger loss-absorbing additional tier 1 capital	*1,962*	*2,005*	*1714*
of which: high-trigger loss-absorbing tier 2 capital[2]			*447*
DCCP contribution to the total loss-absorbing capacity ratio (%)	0.8	0.8	0.9

1 Refer to "Bondholder information" at www.ubs.com/investors for more information about the capital instruments of UBS Group AG and UBS AG both on a consolidated and a standalone basis. 2 Relates to DCCP awards granted for the performance year 2013 – based on Swiss SRB framework including transitional arrangements (phase-in) as of 31 December 2017. As of 31 December 2019 these DCCP awards no longer met the grandfathering treatment under Swiss TBTF capital requirements.

Other variable compensation components

To support hiring and retention, particularly at senior levels, we may offer certain other compensation components. These include:

- replacement payments to compensate employees for deferred awards forfeited as a result of joining the firm – such payments are industry practice and are often necessary to attract senior candidates, who generally have a significant portion of their awards deferred at their current employer, where continued employment is required to avoid forfeiture;
- retention payments made to key employees to induce them to stay, particularly during critical periods for the firm, such as a sale or wind-down of business;
- on a limited basis, guarantees may be required to attract individuals with certain skills and experience – these awards are fixed incentives subject to our standard deferral rules and are limited to the first full year of employment;
- award grants to employees hired late in the year to replace performance awards that they would have earned at their previous employers, but have foregone by joining the firm – these awards are generally structured with the same level of deferral as for employees at a similar level at UBS; and
- in exceptional cases, candidates may be offered a sign-on award to increase the chances of them accepting our offer.

These other variable compensation components are subject to a comprehensive governance process. Authorization and responsibility may go up to the Compensation Committee, depending on the amount or type of such payments.

No severance payments are made to members of the GEB. Below-GEB level employees who are made redundant may receive severance payments. Our severance terms comply with the applicable local laws (legally obligated severance). In certain locations, we may provide severance packages that are negotiated with our local social partners and may go beyond the applicable minimum legal requirements (standard severance). Such payments are governed by location-specific severance policies. In addition, we may make severance payments that exceed legally obligated or standard severance payments (supplemental severance) where we believe that they are aligned with market practice and appropriate under the circumstances.

Replacement awards for new GEB members and forfeitures of former GEB members

Our compensation framework and plans include provisions whereby the firm generally reduces or fully forfeits an employee's unvested or deferred awards where employment has been terminated and in particular where they join another financial services organization and/or violate restrictive covenants, such as solicitation of clients or employees, in line with industry practice.

Conversely, also consistent with industry practice to support talent acquisition, in particular at senior levels, we may offer certain other compensation components such as replacement payments to offset compensation being forfeited as a result of joining UBS. In making such replacement awards, we aim to match the terms and conditions of the awards granted by an employee's previous employer that are forfeited upon the employee joining UBS.

In 2019, Iqbal Khan joined UBS and was appointed to the GEB on 1 October 2019 as Co-President Global Wealth Management. He received awards as replacements for deferred compensation awarded by his previous employer that was forfeited as a result of him joining UBS. Mr. Khan's replacement payment consists of deferred EOP share awards representing 712,342 UBS shares (denominated in Swiss francs) with a grant date total fair market value of USD 8.1 million. The award vests in various installments between 2020 and 2024. All of these awards are subject to the firm's harmful acts provisions. This one-time replacement award to Mr. Khan is more than offset by the total 2019 forfeitures of USD 16.2 million by former GEB members, as shown in the table below. The total 2019 forfeitures of USD 173 million of previously awarded deferred compensation offset the 2019 total sign-on payments, replacement payments and guarantees of USD 114 million.

Sign-on payments, replacement payments, guarantees and severance payments

	Total 2019	*of which: expenses recognized in 2019*[5]	*of which: expenses to be recognized in 2020 and later*[5]	Total 2018	Number of beneficiaries	
USD million, except where indicated					2019	2018
Total sign-on payments[1]	31	*18*	*13*	30	644	178
of which: Key Risk Takers[2]	*9*	*5*	*5*	*7*	*6*	*6*
Total replacement payments[3]	57	*6*	*51*	72	178	299
of which: Key Risk Takers[2]	*22*	*1*	*21*	*19*	*12*	*11*
Total guarantees[3]	27	*14*	*12*	48	32	54
of which: Key Risk Takers[2]	*6*	*2*	*3*	*12*	*3*	*5*
Total severance payments[1,4]	144	*164*[6]	*0*	165	1,444[7]	1,524[7]
of which: Key Risk Takers[2]	*3*	*3*	*0*	*4*	*18*	*18*

1 GEB members are not eligible for sign-on or severance payments. 2 Expenses for Key Risk Takers are full-year amounts for individuals in office on 31 December 2019. Key Risk Takers as defined by UBS, including all employees with a total compensation exceeding USD / CHF 2.5 million (Highly Paid Employees). 3 For 2019, includes a replacement payment to one GEB member. No GEB member received a guarantee for 2019, and no GEB member received replacement payments or guarantees for 2018. 4 Includes legally obligated and standard severance payments as well as payments in lieu of notice. 5 Expenses before post-vesting transfer restrictions. 6 Represents expense recognized in 2019 associated with payments made in 2019 as well as provisions for expected payments in 2020. 7 Relates only to payments expensed in the year.

Forfeitures[1]

	Total 2019	Total 2018	Population affected	
USD million, except where indicated			2019	2018
Total forfeitures	173	179	653	661
of which: former GEB members	*16*	*0*	*1*	*0*
of which: Key Risk Takers[2]	*6*	*30*	*6*	*8*

1 Forfeitures are calculated as units forfeited during the year, valued at the share price on 31 December 2019 (USD 12.58) for 2019. The 2018 data is valued using the share price on 31 December 2018 (USD 12.38). For the notional funds awarded to Asset Management employees under the EOP, this represents the forfeiture credits recognized in 2019 and 2018. For the DCCP, the fair value at grant of the forfeited awards during the year is reflected. 2 Key Risk Takers as defined by UBS, including all employees with a total compensation exceeding USD / CHF 2.5 million (Highly Paid Employees) and excluding former GEB members who have forfeited awards in 2019 or 2018.

Compensation governance

Board of Directors and Compensation Committee

The Board of Directors (the BoD) is ultimately responsible for approving the compensation strategy proposed by the Compensation Committee, which determines compensation-related matters in line with the principles set forth in the Articles of Association.

As determined in the Articles of Association and the firm's Organization Regulations, the Compensation Committee supports the BoD in its duties to set guidelines on compensation and benefits, to approve certain compensation and to scrutinize executive compensation. It is responsible for the governance and oversight of our compensation process and practices, including considering the alignment between pay and performance and that our compensation system does not encourage inappropriate risk-taking. Our Compensation Committee consists of four independent BoD members, who are elected annually by shareholders at the Annual General Meeting (the AGM).

Among other responsibilities, the Compensation Committee, on behalf of the BoD, annually:
- reviews our Total Reward Principles;
- reviews and approves the design of the compensation framework;
- reviews performance award funding throughout the year and proposes the final performance award pool to the BoD for approval;
- together with the Group CEO, reviews performance targets and performance assessments and proposes base salaries and annual performance awards for the other Group Executive Board (GEB) members to the BoD, which approves the total compensation of each GEB member;
- together with the Chairman of the BoD, establishes performance targets, evaluates performance and proposes the compensation for the Group CEO to the BoD;
- approves the total compensation for the Chairman of the BoD;
- together with the Chairman, proposes the total individual compensation for independent BoD members for approval by the BoD;
- together with the BoD, proposes the maximum aggregate amounts of compensation for the BoD and for the GEB, to be submitted for approval by shareholders at the AGM;
- approves remuneration / fee frameworks for external supervisory board members of Significant Group Entities and periodically reviews remuneration / fee frameworks for external supervisory board members of Significant Regional Entities; and
- reviews the compensation report and approves any material public disclosures on compensation matters.

The Compensation Committee meets at least four times a year. In 2019, the Compensation Committee held six meetings and two conference calls, with a participation rate of 97%. The Chairman of the BoD attended all meetings and calls, and the Group CEO all but one meeting. The Chairman of the BoD and the Group CEO were not present during discussions related to their own compensation or performance evaluations. The Chair of the Compensation Committee may also invite other executives to join the meeting in an advisory capacity. No individual whose compensation is reviewed is allowed to attend meetings during which specific decisions are made about that same individual's compensation. Such decisions are subject to approval of the Compensation Committee and the BoD.

After the meetings, the Chair of the Compensation Committee reports to the BoD on the activities of the Compensation Committee and the matters discussed. In addition, where necessary, the Chairperson submits proposals for approval by the full BoD. The minutes of Compensation Committee meetings are sent to all members of the BoD.

On 31 December 2019, the members of the Compensation Committee were Julie G. Richardson, who chairs the committee, Reto Francioni, Fred Hu and Dieter Wemmer.

External advisors

The Compensation Committee may retain external advisors to support it in fulfilling its duties. In 2019, HCM International Ltd. provided independent advice on compensation matters. HCM International Ltd. holds no other mandates with UBS. The compensation consulting firm Willis Towers Watson provided the Compensation Committee with data regarding market trends and pay levels, including in relation to GEB and BoD compensation. Various subsidiaries of Willis Towers Watson provide similar data to Human Resources in relation to compensation for employees below the BoD and GEB level. Willis Towers Watson holds no other compensation-related mandates with UBS.

The Risk Committee's role in compensation

The Risk Committee, a committee of the BoD, works closely with the Compensation Committee to reinforce that our approach to compensation reflects proper risk management and control. The Risk Committee supervises and sets appropriate risk management and risk control principles and receives regular briefings on how risk is factored into the compensation process. It also monitors Group Risk Control's involvement in compensation and reviews risk-related aspects of the compensation process.

→ **Refer to *www.ubs.com/governance* for more information**

Compensation Committee 2019 / 2020 key activities and timeline

The table below provides an overview of the Compensation Committee's key activities from the 2019 AGM to the 2020 AGM.

	July	Sept	Oct	Nov	Dec[1]	Jan	Feb
Strategy, policy and governance							
Total Reward Principles		●					
Three-year strategic plan on variable compensation			●				
Compensation disclosure and stakeholder communication matters	●	●	●		●		●
AGM reward-related items	●						●
Compensation Committee governance							●
Annual compensation review							
Accruals and full-year forecast of the performance award pool funding	●		●	●	●	●	
Performance targets and performance assessment of the Group CEO and GEB members					●	●	●
Group CEO and GEB members' salaries and individual performance awards					●	●	
Update on market practice, trends and peer group matters	●	●	●	●	●		
Pay for performance, including governance on certain higher-paid employees, and non-standard compensation arrangements	●	●				●	●
Board of Directors remuneration	●	●			●	●	
Compensation framework							
Compensation framework and deferred compensation matters	●	●	●		●	●	●
Risk and regulatory							
Risk management in the compensation approach and joint meeting with BoD Risk Committee		●		●		●	
Regulatory activities impacting employees and engagement with regulators	●		●		●	●	●

1 The Compensation Committee held two meetings in December 2019.

Compensation governance

The table below provides an overview of compensation governance by specific role.

Recipients	Compensation recommendations proposed by	Approved by
Chairman of the BoD	Chairperson of the Compensation Committee	Compensation Committee[1]
Independent BoD members (remuneration system and fees)	Compensation Committee and Chairman of the BoD	BoD[1]
Group CEO	Compensation Committee and Chairman of the BoD	BoD[1]
Other GEB members	Compensation Committee and Group CEO	BoD[1]
Key Risk Takers (KRTs) / (senior) employees	Respective GEB member together with functional management team	Individual compensation for KRTs and senior employees: Group CEO Performance award pool for all employees: BoD

1 Aggregate compensation for the GEB and aggregate remuneration for the BoD are subject to shareholder approval.

Compensation for the Group CEO and the other GEB members

Performance assessment

Annual performance awards for the Group CEO and the other Group Executive Board (GEB) members are based on the GEB compensation determination process as outlined below and, in aggregate, subject to shareholder approval at the AGM.

We assess the GEB members' performance against a number of financial targets and goals related to Pillars, Principles and Behaviors. The financial measures for the Group CEO are based on overall Group performance. For the other GEB members, such measures are based on both Group performance and the performance of the relevant business division and/or region; those who lead Group functions are assessed on the performance of the Group and the function they oversee.

The weighting between Group, business division, regional and functional measures varies depending on a GEB member's role. A significant weight is given to Group measures for all GEB members. The achievements relative to goals related to Pillars and Principles are additional factors for assessing the overall quality and sustainability of the financial results. We have adjusted the metric and goal weightings and enhanced the transparency of the respective disclosure. New for 2019, the financial measures account for 70% of the assessment while Pillars and Principles account for 15% and Behaviors account for the remaining 15%.

Overview of the GEB compensation determination process

The compensation for the Group CEO and the other GEB members is governed by a rigorous process under Compensation Committee and BoD oversight. The chart below shows how compensation for all GEB members is determined.

The Compensation Committee is involved at all stages of the performance and total compensation decision-making process for the Group CEO and the other GEB members, for review and approval by the BoD

	Objective setting	Performance assessment	Delivery and deferral
Decision-making process	Financial targets are based on Group, business division, regional and/or functional performance measures (depending on the role of the GEB member). Financial targets and goals related to Pillars, Principles (including ESG-related goals) and Behaviors reflect the strategic priorities determined by the Chairman and the BoD. Financial targets weight: 70% Pillars and Principles weight: 15% Behaviors weight: 15%	Financial results are assessed quantitatively. Achievements relative to goals related to Pillars and Principles (including ESG-related goals) and Behaviors are assessed qualitatively, based on a five-point scale.	When determining actual pay levels, the Compensation Committee factors in: • financial performance • performance assessment • relative performance versus peers • compensation market value and trends • other parameters deemed relevant Final compensation decisions for GEB members consider the Group CEO's recommendation (the Group CEO makes no recommendation on his own awards).
Role of the Compensation Committee	• Together with the BoD Chairman establishes the objectives for the Group CEO • Together with the Group CEO reviews objectives for the other GEB members.	• Together with the BoD Chairman evaluates the performance of the Group CEO and determines the overall assessment. • Together with the Group CEO reviews the performance assessment for the other GEB members.	Proposes to the BoD: • together with the BoD Chairman, the total individual compensation for the Group CEO; and • together with the Group CEO, the total individual compensation for the other GEB members. The final decision on the aggregate amount is subject to shareholder approval.

The performance assessment is the starting point for determining a GEB member's annual performance award. Financial measures are assessed quantitatively based on full-year financial results versus predetermined targets and plan figures. The outcome for each financial measure is expressed as an achievement. Pillars, Principles and Behaviors are assessed qualitatively based on the five-point scale outlined below, which requires a "significantly exceeded expectations" goal rating to provide a 100% achievement score. The total of all weighted achievement scores across financial measures and qualitative goals cannot exceed 100%.

The Compensation Committee can still exercise its judgment with respect to the performance achieved relative to the prior year, the strategic plan and competitors, and considers the Group CEO's recommendation. The Compensation Committee's recommendations are then reviewed and subject to approval by the BoD.

The Compensation Committee, and then the full BoD, follows a similar process in setting the compensation for the Group CEO, except that the recommendation is from the Chairman of the BoD.

Overview of the performance assessment measures

The table below presents the measures for the 2019 performance assessment of the Group CEO and GEB members.

Group measures		A range of financial measures including adjusted Group profit before tax, adjusted Group cost / income ratio, reported return on CET1 capital, CET1 ratios.
Business division, regional and/or functional measures (if applicable)[1]		Business division and/or regional measures vary but may include: net new money growth rate, adjusted divisional / regional profit before tax, adjusted cost / income ratio, net new business volume growth rate, net interest margin, adjusted RoAE, Basel III RWA and LRD expectations. Specific functional measures for Corporate Center GEB members.
Pillars	Capital strength	Establishes and maintains capital. Generates efficiencies and deploys our capital more efficiently and effectively.
	Efficiency and effectiveness	Contributes to the development and execution of our strategy and success across all business lines, functions and regions. Considers market conditions, relative performance and other factors.
	Risk management	Reinforces risk management through an effective control framework. Captures the degree to which risks are self-identified and focuses on the individual's success to comply with all the various regulatory frameworks. Helps shape the firm's relationship with regulators through ongoing dialog.
Principles	Client focus	Increases client satisfaction and maintains high levels of satisfaction over the long term. This includes promoting collaboration across business divisions and fostering the delivery of the whole firm to our clients.
	Excellence	Human Capital Management – develops successors for the most senior positions, facilitates talent mobility within the firm and promotes a diverse and inclusive workforce. Product and Service Quality – strives for excellence in the products and services we offer to our clients.
	Sustainable performance	Brand and Reputation – protects the Group's reputation and reinforces full compliance with our standards and principles. Culture and Growth – takes a personal role in making Principles and Behaviors front and center of the business requirements, including a focus on sustainable growth. Furthermore, this measure evaluates the individual's ability to reinforce a culture of accountability and responsibility, demonstrating our commitment to be a responsible corporate citizen and reinforcing our collective behaviors.
Behaviors	Integrity	Is responsible and accountable for what they say and do; cares about clients, investors, and colleagues; acts as a role model.
	Collaboration	Places the interests of clients and the firm before their own and those of their business; works across the firm; respects and values diverse perspectives.
	Challenge	Encourages self and others to constructively challenge the status quo; learns from mistakes and experiences.

1 Both regional and functional measures may include qualitative measures.

Qualitative performance assessment scale

The table below presents the five-point scale used for the qualitative assessment of the performance against goals related to Pillars, Principles and Behaviors.

Below expectations	Met most expectations	Met expectations	Exceeded expectations	Signif. exceeded expectations
Performance failed to meet the standard expected, immediate improvement required	Reasonable performance, but not consistently up to the standard expected, some improvement required	Performance consistently met standard expected, may have exceeded a few goals	Performance exceeded most expectations on a regular basis	Consistently achieved truly exceptional results
Achievement score: 0–30%	Achievement score: 40%	Achievement score: 60%	Achievement score: 80%	Achievement score: 100%

2019 compensation for the Group Chief Executive Officer

The performance award for the Group CEO, Sergio P. Ermotti, is based on the achievement of financial performance targets and qualitative goal achievements relative to Pillars, Principles and Behaviors, as described earlier in this section. These targets and goals were set to reflect the strategic priorities determined by the Chairman and the BoD. To judge the quality and sustainability of the financial results, the Compensation Committee considers in the qualitative goal assessment a range of additional factors including relative performance and market conditions, as well as ESG-related aspects, such as client satisfaction, employee satisfaction, talent management, diversity and inclusion, sustainable business practice, sustainable finance, and philanthropy.

The table below illustrates the assessment criteria used to evaluate the achievements of Mr. Ermotti as Group CEO for 2019. We enhanced the presentation regarding these disclosures by outlining the annual target, the results, the achievement and the weighted assessment. With respect to the non-financial targets, we have also aligned 100% with "significantly exceeded expectations." As a result, a "met expectations" results in 60% versus 100% for "significantly exceeded expectations."

→ **Refer to the "Compensation philosophy and framework" section of this report for more information**

Performance assessment for the Group CEO

The BoD recognized Mr. Ermotti's **successful leadership in preparing and positioning the Group for the future while effectively navigating it through another challenging year** marked by geopolitical and macro uncertainty as well as difficult external conditions including sustained negative interest rates and significant efforts to mitigate the impact of the French cross-border matter on the firm.

	Weight	Performance measures	2019 Annual target	2019 Results	Achieve-ment	Weighted assess-ment	2019 Commentary
Financial perfor-mance	30%	**Return on CET1 capital**	15%	12.4%	83%	25%	– The Group achieved a reported **return on CET1 capital of 12.4% (versus 13.1% in 2018).**
	20%	**Adjusted Group profit before tax**	USD 6.9 billion	USD 6.0 billion	88%	18%	– The Group achieved an **adjusted[1] profit before tax of USD 6 billion,** in line with 2018 results.
	10%	**Adjusted cost / income ratio**	77%	78.9%	81%[2]	8%[2]	– Despite additional regulatory cost pressure, costs were effectively managed down but did not completely offset revenue shortfalls, resulting in a **cost / income ratio of 78.9% (versus 79.5% in 2018).**
	10%	**Capital management** CET1 capital ratio CET1 leverage ratio Post-stress CET1 capital ratio	13.0% 3.7% Above target	13.7% 3.9% Achieved	100% 100% 100%	10%	– The capital position was successfully managed, allowing for **increased capital distributions / buybacks** to shareholders while maintaining a **strong CET1 capital ratio of 13.7% and a CET1 leverage ratio of 3.9%.**

1 Refer to "Group performance" in the "Financial and operating performance" section of this report for more information on adjusted results. 2 For the assessment of the cost / income ratio, each 1% difference between actual and target affects the score by 10%.

Performance assessment for the Group CEO (continued)

	Weight	Performance measures	Achievement	Weighted assessment	2019 Commentary
Qualitative goals	15%	**Pillars and Principles**	Met expectations (60%)	9%	– Under Mr. Ermotti's leadership, capital distribution targets were delivered upon while maintaining the firm's balance sheet strength. While progress was achieved on a number of **growth and synergy initiatives across divisions, functions and regions,** the Group **did not fully deliver on growth and return targets,** in particular in the Global Wealth Management and Investment Bank divisions. – Mr. Ermotti further increased the focus on **positioning UBS for the future** through various efforts including entering into strategic partnerships and executed on the defined technology strategy. – Mr. Ermotti continued his **dedication to and personal engagement with clients** and ensured further progress was made throughout the firm in enhancing **client centricity, providing high-quality, state-of-the-art products and services, leveraging new technologies and strengthening the digital offering.** – Mr. Ermotti led the organization in its continued focus on ESG topics, demonstrated by the Group's recognition as **industry leader in the Dow Jones Sustainability Indices** for the fifth consecutive year, confirming the progress made toward achieving the ambitions in **sustainable finance, philanthropy, sustainable business practices and being an employer of choice.** – Mr. Ermotti further enhanced the focus on improvements in the Group's **risk profile and progressed initiatives to meet regulatory requirements.** – In 2019, Mr. Ermotti integrated new GEB members into his leadership team and made changes through internal promotion as well as attracting external talent. He also continued to drive **talent development, succession planning and internal mobility** throughout the organization.
	15%	**Behaviors**	Exceeded expectations (80%)	12%	– Mr. Ermotti set a **clear and consistent tone from the top and role-modeled** the UBS behaviors. He continued to encourage constructive challenge, displaying his strong commitment for continuous improvement, and drove the organization toward stronger collaboration in the interest of clients. – He remained the most important ambassador to the Group's **culture and behavior program** and continued to personally champion the behavior principles across the organization.
	Total weighted assessment (maximum 100%)			81%	

In addition to Mr. Ermotti's achievements in 2019 and underlying performance, the BoD also considered other factors, including the impact of the French cross-border matter on the firm and the resulting share price development.

The BoD approved the proposal by the Compensation Committee to grant Mr. Ermotti a performance award of **CHF 9.7 million (down 14% from CHF 11.3 million in 2018)**, resulting in a total compensation for the year of CHF 12.2 million (excluding benefits and contributions to his retirement benefit plan).

The performance award is subject to shareholder approval as part of the aggregate GEB 2019 variable compensation and will be delivered 20% (CHF 1.9 million) in cash and the remaining 80% (CHF 7.8 million) subject to deferral and forfeiture provisions, as well as meeting performance conditions over five years.

Furthermore, CHF 1.5 million of the 2019 LTIP award for Mr. Ermotti is entirely at risk and subject to forfeiture based on the final cost associated with the resolution of the French cross-border matter, as noted in other sections of this report.

2019 total compensation for the GEB members

The GEB performance awards are subject to approval by the BoD based on the assessment of financial targets, as well as goals related to Pillars, Principles and Behaviors and, in aggregate, subject to shareholder approval. The aggregate performance award pool for the GEB was CHF 70.3 million (USD 70.7 million) for 2019, a decrease of 14% compared with the prior year on a per capita basis. This decrease is in line with the decrease in the overall performance award pool of the firm. Group profit before tax decreased 7% to USD 5.6 billion while adjusted profit before tax decreased slightly to USD 6.0 billion.

The Compensation Committee has confirmed that performance conditions for all GEB members' awards due to vest in March 2020 have been satisfied, and thus the awards will vest in full.

At the 2020 AGM, shareholders will vote on the aggregate 2019 total variable compensation for the GEB in Swiss francs. Therefore, the tables below provide the awarded compensation for the Group CEO and the GEB members in Swiss francs and, for reference, the total amounts in US dollars for comparability with financial performance. The individual variable performance awards for each GEB member will only be confirmed upon shareholder approval at the AGM.

→ **Refer to "Provisions of the Articles of Association related to compensation" in the "Supplemental Information" section of this report for more information**

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Total compensation for GEB members[1]

Group CEO Sergio P. Ermotti (highest paid)

CHF, except where indicated										*USD (for reference)[2]*		
For the year	Base salary	Contribution to retirement benefit plans[3]	Benefits[4]	Total fixed compensation	Cash[5]	Performance award under LTIP[6]/EOP[7]	Performance award under DCCP[8]	Total variable compensation	Total fixed and variable compensation[9]	Total fixed compensation	Total variable compensation	Total fixed and variable compensation[9]
2019	2,500,000	244,353	65,048	2,809,401	1,940,000	4,850,000	2,910,000	9,700,000	12,509,401	2,826,303	9,758,356	12,584,659
2018	2,500,000	261,181	62,813	2,823,994	2,000,000	5,910,000	3,390,000	11,300,000	14,123,994			

Aggregate of all GEB members[10,11,12,13]

CHF, except where indicated										*USD (for reference)[2]*		
For the year	Base salary[14]	Contribution to retirement benefit plans[3]	Benefits[4]	Total fixed compensation	Cash[5]	Performance award under LTIP[6]/EOP[7]	Performance award under DCCP[8]	Total variable compensation	Total fixed and variable compensation[9]	Total fixed compensation	Total variable compensation	Total fixed and variable compensation[9]
2019	28,169,646	2,333,935	1,350,439	31,854,020	14,050,000	35,125,000	21,075,000	70,250,000	102,104,020	32,045,656	70,672,629	102,718,285
2018	22,948,016	2,540,085	2,042,509	27,530,610	14,269,889	37,040,111	21,990,000	73,300,000	100,830,610			

1 Local currencies have been translated into Swiss francs at the relevant year-end closing exchange rates, or at the performance award currency exchange rate. 2 Swiss franc amounts have been translated into US dollars for reference at the 2019 performance award currency exchange rate of CHF / USD 1.006. 3 Includes the portion related to the employer's contribution to the statutory pension scheme. 4 All benefits are valued at market price. 5 For GEB members who are also MRTs or SMFs, the cash portion includes blocked shares. 6 LTIP awards for performance year 2019 were awarded at a value of 62.25% of maximum which reflects our best estimate of the fair value of the award. The maximum number of shares is determined by dividing the awarded amount by the fair value of the award at the date of grant, divided by CHF 12.919 or USD 13.141, the average closing price of UBS shares over the last ten trading days leading up to and including the grant date. 7 For EOP awards for the performance year 2018, the number of shares was determined by dividing the amount by CHF 12.622 or USD 12.610, the average closing price of UBS shares over the last ten trading days leading up to and including the grant date. 8 The amounts reflect the amount of the notional additional tier 1 (AT1) capital instrument excluding future notional interest. For DCCP awards for the performance year 2019, the notional interest rate is set at 3.90% for awards denominated in US dollars and 1.50% for awards denominated in Swiss francs. For DCCP awards for the performance year 2018, the notional interest rate is set at 6.85% for awards denominated in US dollars and 3.40% for awards denominated in Swiss francs. 9 Excludes the portion related to the legally required employer's social security contributions for 2019 and 2018, which are estimated at grant at CHF 4,969,844 and CHF 5,175,418, respectively, of which CHF 797,938 and CHF 886,455, respectively, for the highest-paid GEB member. The legally required employees' social security contributions are included in the amounts shown in the table above, as appropriate. 10 Thirteen GEB members were in office on 31 December 2019 including three new GEB members, one appointed on 1 January 2019 and two on 1 October 2019; three GEB members stepped down, one on 31 December 2018 and two on 30 September 2019. Thirteen GEB members were in office on 31 December 2018 including two new GEB members appointed on 1 October 2018 and one on 1 November 2018; two GEB members stepped down on 31 December 2017 and 30 September 2018. 11 2019 includes compensation for three months paid under the employment contract during the notice period for one GEB member who stepped down on 30 September 2018 as well as compensation for two GEB members who stepped down on 30 September 2019 for nine months in office as GEB members plus for three months paid under the employment contract during the notice period. 2018 includes compensation for six months paid under the employment contract during the notice period for one GEB member who stepped down on 31 December 2017, as well as compensation for one GEB member who stepped down on 30 September 2018 for nine months in office as a GEB member plus for three months paid under the employment contract during the notice period. 12 2019 includes compensation for one newly appointed GEB member for 12 months in office as a GEB member and for two newly appointed GEB members for three months in office as GEB members. 2018 includes compensation for two newly appointed GEB members for three months in office as GEB members, and for one newly appointed GEB member for two months in office as a GEB member. 13 For 2019, Iqbal Khan received a one-time replacement award of CHF 8,053,022. This replacement award is not included in the above table; including this, the 2019 total aggregate compensation of all GEB members is CHF 110,157,042. 14 Includes role-based allowances in line with market practice in response to regulatory requirements.

Total realized compensation for Sergio P. Ermotti

To further illustrate the effect of our lengthy deferral approach in place since 2012, we disclose the annual realized compensation of Sergio P. Ermotti, including a multi-year comparison with his total awarded compensation.

The realized compensation reflects the total amount paid out in the year. It includes the base salary, cash performance award payments, and all deferred performance awards vested in the year. As such, realized pay is the natural culmination of awards granted and approved by shareholders in previous years.

The table below provides information on the total awarded and realized compensation paid out to Sergio P. Ermotti since his appointment (excluding 2011 salary earned).

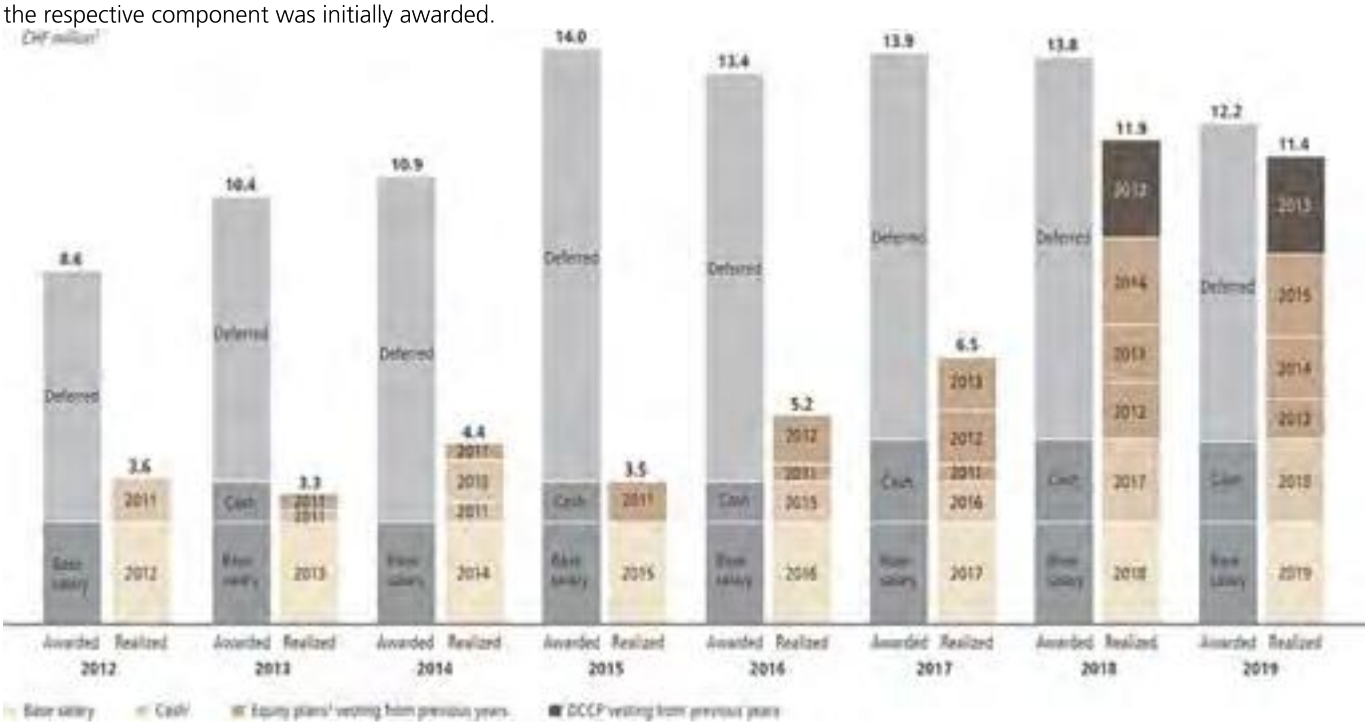
Total realized compensation vs awarded compensation for Sergio P. Ermotti[1]

CHF						Realized	Awarded
For the year	Base salary	Cash award[2]	Deferred cash award[3,4]	Performance award under equity plans[4,5]	Performance award under DCCP[4]	Total realized fixed and variable compensation[6]	Total awarded fixed and variable compensation[6]
2019	2,500,000	2,000,000	0	4,533,741	2,370,000	11,403,741	12,200,000
2018	2,500,000	2,000,000	0	4,986,563	2,440,000	11,926,563	13,800,000
2017	2,500,000	1,000,000	0	2,951,043	0	6,451,043	13,900,000
2016	2,500,000	1,000,000	0	1,667,128	0	5,167,128	13,400,000
2015	2,500,000	0	0	1,018,440	0	3,518,440	14,000,000
2014	2,500,000	1,000,000	373,441	537,217	0	4,410,658	10,900,000
2013	2,500,000	0	349,622	423,623	0	3,273,245	10,400,000
2012	2,500,000	553,200[3]	553,200	0	0	3,606,400	8,600,000

1 Appointed on 24 September 2011 as Group CEO ad interim and confirmed on 15 November 2011. 2 Paid out based on previous performance year. For 2012 this includes Cash Balance Plan installments (discontinued in 2012). 3 Cash Balance Plan installments. For 2012, due to applicable UK FSA regulations, deferred cash includes blocked shares. 4 Excludes dividend / interest payments. 5 Includes all installments paid out under the EOP, Senior Executive Equity Ownership Plan (SEEOP, discontinued in 2012) and Performance Equity Plan (PEP, discontinued in 2012). 6 Excludes contributions to retirement benefit plans and benefits. Includes social security contributions paid by Sergio P. Ermotti but excludes the portion related to the legally required social security contributions paid by UBS.

The chart below further illustrates the effect of our deferral approach over time. The bars for realized pay show which components (base salary, cash, equity plans, DCCP) deliver the realized compensation in the year indicated and for which year the respective component was initially awarded.

The bars for awarded compensation show the split between fixed compensation (base salary) and variable compensation (cash component and deferred awards) and highlight that a significant portion of the variable compensation is deferred.



1 Excludes contributions to retirement benefit plans and benefits. Includes social security contributions paid by Sergio P. Ermotti but excludes the portion related to the legally required social security contributions paid by UBS. 2 Paid out based on previous performance year. 2012, 2013 and 2014 include Cash Balance Plan installments. 3 Includes all installments paid out under respective EOP, SEEOP and PEP plans, excludes dividend payments.

Board of Directors compensation

Chairman of the BoD

Under the leadership of the Chairman, Axel A. Weber, the Board of Directors (the BoD) determines, among other things, the strategy for the Group based on recommendations by the Group CEO, exercises ultimate supervision over management and appoints all GEB members.

The Chairman presides over all general meetings of shareholders and the BoD, and works with the committee chairpersons to coordinate the work of all BoD committees. Together with the Group CEO, the Chairman is responsible for effective communication with shareholders and other stakeholders, including clients, government officials, regulators and public organizations. This is in addition to establishing and maintaining a close working relationship with the Group CEO and other GEB members, and providing advice and support when appropriate, as well as continuing to strengthen and promote our culture through the three keys to success – our Pillars, Principles and Behaviors.

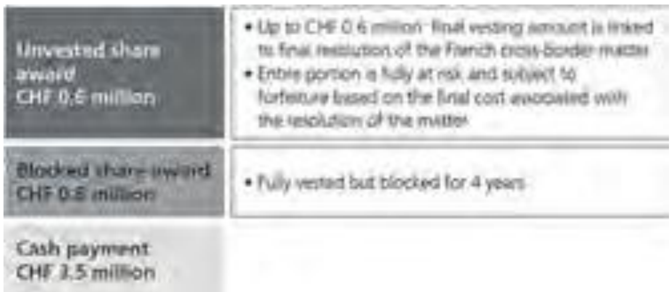
The Chairman's total compensation for the period from AGM to AGM is contractually fixed without any variable component. For the current period from the 2019 AGM to the 2020 AGM and in line with the reduction of the fees for independent Board members effective from the 2020 AGM, as explained later in this section, his total compensation has been reduced by 14% from CHF 5.7 million to CHF 4.9 million, excluding benefits and pension fund contributions. The Chairman's total compensation for the current period consisted of a cash payment of CHF 3.5 million and a share component of CHF 1.4 million consisting of 108,367 UBS shares at CHF 12.919 per share.

Accordingly, his total reward, including benefits and pension fund contributions for his service as Chairman for the current period, was CHF 5,235,143.

→ **Refer to "Board of Directors" in the "Corporate governance" section of this report for more information about the responsibilities of the Chairman**

The share component aligns the Chairman's pay with the Group's long-term performance. While the size of the share award continues to be contractually fixed, the vesting of a portion of the share award for the current period is linked to the final resolution of the French cross-border matter. This portion is entirely at risk and subject to forfeiture based on the final cost associated with the resolution of the matter. If the French cross-border matter is unresolved at the time the 2019 award is expected to vest, this portion continues to be at risk, contingent upon the final resolution of this matter. This vesting condition is identical with the new vesting condition introduced for the Group CEO and certain other GEB members on a portion of their 2019 LTIP award. This further demonstrates the Chairman's alignment with shareholders on this matter. The remaining share award is fully vested but blocked for four years.

Contractually fixed total compensation of the Chairman



The Chairman's employment agreement does not provide for severance terms or supplementary contributions to pension plans. Benefits for the Chairman are in line with local practices for UBS employees. The Chair of the Compensation Committee proposes and the Compensation Committee approves the Chairman's compensation annually for the upcoming AGM to AGM period, taking into consideration fee or compensation levels for comparable roles based on our core financial industry peers as well as other relevant leading Swiss companies as included in the Swiss Market Index.

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Compensation details and additional information for non-independent BoD members

CHF, except where indicated							*USD (for reference)*
Name, function[1]	For the period AGM to AGM[2]	Base salary	Annual share award[3]	Benefits[4]	Contributions to retirement benefit plans[5]	Total[6]	Total[6,7]
Axel A. Weber, Chairman	2019/2020	3,500,000	1,400,000	90,790	244,353	5,235,143	5,266,638
	2018/2019	3,500,000	2,200,000	69,230	255,572	6,024,802	

1 Axel A. Weber was the only non-independent member in office on 31 December 2019 and 31 December 2018. 2 The change in reporting period from "financial year" to "AGM to AGM" results in a different total compensation for the period from the 2018 AGM to the 2019 AGM than previously reported for "financial year 2018", which was CHF 6,033,422. The difference in the total compensation is due to varying benefits and contributions to retirement benefit plans. 3 These shares are blocked for four years. 4 Benefits are all valued at market price. For the period from the 2019 AGM to the 2020 AGM, benefits amount is an estimate. 5 Includes the portion related to UBS's contribution to the statutory pension scheme. For the period from the 2019 AGM to the 2020 AGM, contribution to retirement benefit plans amount is an estimate. 6 Excludes the portion related to the legally required social security contributions paid by UBS, which for the period from the 2019 AGM to the 2020 AGM is estimated at grant at CHF 323,677 and for the period from the 2018 AGM to the 2019 AGM at CHF 369,772. The legally required social security contributions paid by the non-independent BoD members are included in the amounts shown in this table, as appropriate. 7 Swiss franc amounts have been translated into US dollars for reference at the 2019 performance award currency exchange rate of CHF / USD 1.006.

Independent BoD members

All BoD members except the Chairman are deemed independent directors and receive a fixed base fee and additional committee fees for their services on the firm's various board committees as outlined in the below table. For the current period from the 2019 AGM to the 2020 AGM the remuneration framework remains unchanged.

In the current period, the roles of Senior Independent Director and Vice Chairman are both held by one Board member, hence the additional payment for both roles is only paid once. Independent BoD members must use a minimum of 50% of their fees to purchase UBS shares, which are blocked for four years. They may elect to use up to 100% of their fees to purchase blocked UBS shares. In all cases, the number of shares is calculated at a discount of 15% on the average closing price of the 10 trading days leading up to and including the grant date. Independent BoD members do not receive performance awards, severance payments or benefits.

At each AGM, shareholders are invited to approve the aggregate amount of BoD remuneration in Swiss francs, including compensation of the Chairman, which applies until the next AGM. The tables on the following page provide details on the compensation for the independent BoD members in Swiss francs, and, for reference, the total amounts in US dollars.

The remuneration framework for independent BoD members is subject to an annual review based on a proposal submitted by the Chairman of the BoD to the Compensation Committee, which in turn submits a recommendation to the BoD for approval.

In our 2019 review of all elements of our compensation framework we also reflected on our BoD remuneration framework. We concluded that our overall approach for independent Board member compensation remains appropriate. However, a number of adjustments have been made to simplify and rebalance the fee structure while maintaining it at a competitive level. These changes led to a total fee reduction of approximately 14% (depending on allocation of committee membership). The below summarizes the adjustments which become effective for the period from the 2020 AGM to the 2021 AGM.

– The fixed base fees, which had been broadly flat since 1998, have been reduced from CHF 325,000 to CHF 300,000.
– While the additional committee fees reflect the work required on these committees, the fees for the Chairs of the Risk and the Compensation Committees have been reduced by CHF 50,000 and CHF 100,000, respectively.
– We have substantially reduced the additional payment for the Senior Independent Director and Vice Chairman roles to CHF 150,000, a reduction of CHF 100,000. In case both roles are allocated to one Board member, the fee will only be paid once.
– Independent BoD members must still use a minimum of 50% of their fees to purchase UBS shares, which are blocked for four years, and they may continue to elect to use up to 100% of their fees to purchase blocked UBS shares. We have, however, eliminated the 15% discount at which independent Board members were previously entitled to purchase these shares.

Remuneration framework for independent BoD members

CHF	2019 AGM to 2020 AGM[1]		2020 AGM to 2021 AGM[2]	
Fixed base fee	325,000		300,000	
Additional fees				
Senior Independent Director/Vice Chairman	250,000		150,000	
Additional committee fees	**Chair**	**Member**	**Chair**	**Member**
Audit Committee	300,000	200,000	300,000	200,000
Compensation Committee	300,000	100,000	200,000	100,000
Governance and Nominating Committee		100,000		100,000
Corporate Culture and Responsibility Committee		50,000		50,000
Risk Committee	400,000	200,000	350,000	200,000

1 UBS shares (at least 50% of fees) are granted with a price discount of 15% and are blocked for four years. 2 The share price discount of 15% will be eliminated effective from the 2020 AGM onwards; the requirement to use at least 50% of the fees to purchase UBS shares blocked for four years remains unchanged.

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Total payments to BoD members

CHF, except where indicated			*USD (for reference)*
	For the period AGM to AGM[1]	Total[2]	Total[2,3]
Aggregate of all BoD members	2019/2020	12,510,143	12,585,405
	2018/2019	13,449,802	

1 The change in reporting period from "financial year" to "AGM to AGM" for the Chairman results in a different total compensation for the period from the 2018 AGM to the 2019 AGM than previously reported for "financial year 2018", which was CHF 13,458,422. The difference in the total compensation is due to varying benefits and contributions to retirement benefit plans for the Chairman. 2 Includes social security contributions paid by the BoD members but excludes the portion related to the legally required social security contributions paid by UBS, which for the period from the 2019 AGM to the 2020 AGM is estimated at grant at CHF 662,357 and for the period from the 2018 AGM to the 2019 AGM at CHF 831,552. 3 Swiss franc amounts have been translated into US dollars for reference at the 2019 performance award currency exchange rate of CHF / USD 1.006.

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Remuneration details and additional information for independent BoD members

CHF, except where indicated

Name, function[1]	Audit Committee	Compensation Committee	Corporate Culture and Responsibility Committee	Governance and Nominating Committee	Risk Committee	For the period AGM to AGM	Base fee	Committee fee(s)	Additional payments[2]	Total[3]	Share percentage[4]	Number of shares[5,6]
Michel Demaré, former Vice Chairman						2019/2020	–	–	–	–	–	–
	M	M		M		2018/2019	325,000	400,000	250,000	975,000	100	86,010
David Sidwell, Vice Chairman and Senior Independent Director				M	C	2019/2020	325,000	500,000	250,000	1,075,000	50	48,948
				M	C	2018/2019	325,000	500,000	250,000	1,075,000	50	50,097
Jeremy Anderson, member	C		M	M		2019/2020	325,000	450,000		775,000	50	35,288
	C		M			2018/2019	325,000	350,000		675,000	50	31,456
William C. Dudley, member			M		M	2019/2020	325,000	250,000		575,000	50	26,181
						2018/2019	–	–		–	–	–
Reto Francioni, member		M			M	2019/2020	325,000	300,000		625,000	50	28,458
			M		M	2018/2019	325,000	250,000		575,000	50	26,796
Ann F. Godbehere, former member						2019/2020	–	–		–	–	–
	M	C				2018/2019	325,000	500,000		825,000	50	38,447
Fred Hu, member		M				2019/2020	325,000	100,000		425,000	100	27,283
						2018/2019	325,000	–		325,000	50	15,145
Julie G. Richardson, member		C		M	M	2019/2020	325,000	600,000		925,000	50	42,118
		M			M	2018/2019	325,000	300,000		625,000	50	29,126
Isabelle Romy, member	M			M		2019/2020	325,000	300,000		625,000	50	28,458
	M			M		2018/2019	325,000	300,000		625,000	50	29,126
Robert W. Scully, member					M	2019/2020	325,000	200,000		525,000	50	23,904
					M	2018/2019	325,000	200,000		525,000	50	24,466
Beatrice Weder di Mauro, member	M		M			2019/2020	325,000	250,000		575,000	50	26,181
	M		M			2018/2019	325,000	250,000		575,000	50	26,796
Dieter Wemmer, member	M	M				2019/2020	325,000	300,000		625,000	50	28,458
		M			M	2018/2019	325,000	300,000		625,000	50	29,126
Jeanette Wong, member	M					2019/2020	325,000	200,000		525,000	100	33,722
						2018/2019	–	–		–	–	–
Total 2019/2020										7,275,000		
Total 2019/2020 in USD (for reference)[7]										7,318,766		
Total 2018/2019										7,425,000		

Legend: C = Chairperson of the respective Committee, M = Member of the respective Committee

1 Eleven independent BoD members were in office on 31 December 2019. At the 2019 AGM, William C. Dudley and Jeanette Wong were newly elected and Michel Demaré and Ann F. Godbehere did not stand for re-election. Eleven independent BoD members were in office on 31 December 2018. 2 These payments are associated with the Vice Chairman and/or the Senior Independent Director function. 3 Excludes UBS's portion related to the legally required social security contributions, which for the period from the 2019 AGM to the 2020 AGM is estimated at grant at CHF 338,680 and which for the period from the 2018 AGM to the 2019 AGM was estimated at grant at CHF 461,780. The legally required social security contributions paid by the independent BoD members are included in the amounts shown in this table, as appropriate. 4 Fees are paid 50% in cash and 50% in blocked UBS shares. However, independent BoD members may elect to have 100% of their remuneration paid in blocked UBS shares. 5 For 2019, UBS shares, valued at CHF 12.919 (average closing price of UBS shares over the last 10 trading days leading up to and including the grant date), were granted with a price discount of 15%. These shares are blocked for four years. For 2018, UBS shares, valued at CHF 12.622 (average closing price of UBS shares at the SIX Swiss Exchange over the last 10 trading days leading up to and including the grant date), were granted with a price discount of 15%. These shares are blocked for four years. 6 Number of shares is reduced in case of the 100% election to deduct legally required contributions. All remuneration payments are, where applicable, subject to social security contributions and/or withholding tax. 7 Swiss franc amounts have been translated into US dollars for reference at the 2019 performance award currency exchange rate of CHF / USD 1.006.

Supplemental information

Fixed and variable compensation for GEB members

Fixed and variable compensation for GEB members[1,2,3]

	Total for 2019		Not deferred		Deferred[4]		Total for 2018
CHF million, except where indicated	Amount	%	Amount	%	Amount	%	Amount
Total compensation							
Amount[5]	98	100	42	43	56	57	96
Number of beneficiaries	16						15
Fixed compensation[5,6]	28	29	28	100	0	0	23
Cash-based	24	25	24		0		21
Equity-based	4	4	4		0		2
Variable compensation	70	71	14	20	56	80	73
Cash[7]	14	14	14		0		14
Long-Term Incentive Plan (LTIP) / Equity Ownership Plan (EOP)[8]	35	36	0		35		37
Deferred Contingent Capital Plan (DCCP)[8]	21	21	0		21		22

1 The figures relate to all GEB members in office during 2019. Thirteen GEB members were in office on 31 December 2019 including three new GEB members, one appointed on 1 January 2019 and two on 1 October 2019; three GEB members stepped down, one on 31 December 2018 and two on 30 September 2019. Thirteen GEB members were in office on 31 December 2018 including two new GEB members appointed on 1 October 2018 and one on 1 November 2018; two GEB members stepped down on 31 December 2017 and 30 September 2018. 2 2019 includes compensation for three months paid under the employment contract during the notice period for one GEB member who stepped down on 30 September 2018 as well as compensation for two GEB members who stepped down on 30 September 2019 for nine months in office as GEB member plus for three months paid under the employment contract during the notice period. 2018 includes compensation for six months paid under the employment contract during the notice period to one GEB member who stepped down on 31 December 2017, as well as compensation for one GEB member who stepped down on 30 September 2018 for nine months in office as a GEB member plus for three months paid under the employment contract during the notice period. 3 2019 includes compensation for one newly appointed GEB member for 12 months in office as a GEB member and for two newly appointed GEB members for three months in office as GEB members. 2018 includes compensation for two newly appointed GEB members for three months in office as GEB members, and for one newly appointed GEB member for two months in office as a GEB member. 4 Based on the specific plan vesting and reflecting the total award value at grant, which may differ from the accounting expenses. 5 Excludes benefits and employer's contributions to retirement benefit plans. Includes social security contributions paid by GEB members but excludes the portion related to the legally required social security contributions paid by UBS. For 2019, Iqbal Khan received a one-time replacement award of CHF 8 million. This replacement payment is not included in the above table; including this, the 2019 total compensation of GEB members is CHF 106 million. 6 Includes base salary and role-based allowances, rounded to the nearest million. 7 Includes allocation of vested but blocked shares, in line with the remuneration section of the UK Prudential Regulation Authority Rulebook. 8 For the GEB members who are also MRTs (or SMFs), the awards starting with performance year 2017 are no longer permitted to include dividend and interest payments. Accordingly, the amounts reflect for the LTIP / EOP the fair value of the non-dividend-bearing awards and for the DCCP the fair value of the granted non-interest-bearing awards.

Regulated staff

Key Risk Takers

Key Risk Takers (KRTs) are defined as those employees who, by the nature of their roles, have been determined to materially set, commit or control significant amounts of the firm's resources and/or exert significant influence over its risk profile. This includes employees who work in front-office roles, logistics and control functions. Identifying KRTs globally is part of our risk control framework and an important element in ensuring we incentivize only appropriate risk-taking. For 2019, in addition to GEB members, 661 employees were classified as KRTs throughout the UBS Group globally, including all GMDs and all employees with a total compensation exceeding USD / CHF 2.5 million (Highly Paid Employees) who may not have been identified as KRTs during the performance year.

In line with regulatory requirements, the performance of employees identified as KRTs during the performance year is evaluated by the control functions. In addition, KRTs' performance awards are subject to a mandatory deferral rate of at least 50%, regardless of whether the deferral threshold has been met. A KRT's deferred compensation award will only vest if the relevant Group and/or business division performance conditions are met. Consistent with all other employees, the deferred portion of a KRT's compensation is also subject to forfeiture or reduction if the KRT commits harmful acts.

Fixed and variable compensation for Key Risk Takers[1]

	Total for 2019		Not deferred		Deferred[2]		Total for 2018
USD million, except where indicated	Amount	%	Amount	%	Amount	%	Amount
Total compensation							
Amount	1,056	100	670	64	385	36	1,250
Number of beneficiaries	661						675
Fixed compensation[3,4]	388	37	388	100	0	0	417
Cash-based	383	36	383		0		395
Equity-based	6	1	6		0		22
Variable compensation	667	63	282	42	385	58	833
Cash[5]	282	27	282		0		341
Long-Term Incentive Plan (LTIP) / Equity Ownership Plan (EOP) [6]	230	22	0		230		305
Deferred Contingent Capital Plan (DCCP)[6]	155	15	0		155		186

1 Includes employees with a total compensation exceeding USD / CHF 2.5 million (Highly Paid Employees), excluding GEB members who were in office during the performance year 2019, except the new GEB member appointed during 2019, who is included for compensation received in their role as a KRT prior to being appointed to the GEB. 2 Based on the specific plan vesting and reflecting the total value at grant, which may differ from the accounting expenses. 3 Excludes benefits and employer's contributions to retirement benefits plan. Includes social security contributions paid by KRTs but excludes the portion related to the legally required social security contributions paid by UBS. 4 Includes base salary and role-based allowances. 5 Includes allocation of vested but blocked shares, in line with regulatory requirements where applicable. 6 Starting with performance year 2017, KRTs who are also MRTs are no longer permitted to receive dividend and interest payments. Accordingly, the amounts for the EOP/LTIP reflect the fair value of the non-dividend-bearing awards and for the DCCP the fair value of the granted non-interest-bearing awards.

Material Risk Takers

For relevant EU-regulated entities, we identify individuals who are deemed to be Material Risk Takers (MRTs) based on local regulatory requirements, the respective EU Commission Delegated Regulation and the EU Capital Requirements Directive of 2013 (CRD IV). This group consists of senior management, risk takers, selected staff in control or support functions and certain employees whose total compensation is above a specified threshold. For 2019, UBS identified 755 MRTs across its EU entities.

Variable compensation awarded to MRTs is subject to specific requirements from local regulators, such as a maximum variable to fixed compensation ratio, which is set at 100% unless approved to be increased to 200% by the shareholders of the respective legal entity. UBS has obtained approval as appropriate through relevant shareholder votes to increase the variable to fixed compensation ratio to 200%. Other applicable regulatory requirements for this population include a minimum deferral rate of 40–60% on performance awards and the delivery of at least 50% of any upfront performance award in UBS shares that vest immediately but are blocked for 12 months.

Any notional shares granted to MRTs under the LTIP, EOP and notional DCCP awards for their performance in 2019 are subject to a six- or 12-month blocking period post vesting and do not pay out dividends or interest during the deferral period.

Performance awards granted to MRTs are also subject to clawback provisions which allow the firm to claim repayment of both the immediate and the vested deferred element of any performance award if an individual is found to have contributed substantially to significant financial losses for the Group or corporate structure in scope, a material downward restatement of disclosed results, or engaged in misconduct and/or failed to take expected actions that contributed to significant reputational harm.

Due to UK regulatory requirements, LTIP awards granted to UK MRTs and SMFs will be subject to an additional non-financial conduct-related metric.

UK Senior Managers and Certification Regime

The Senior Managers and Certification Regime (the SMCR) of the UK Prudential Regulation Authority and Financial Conduct Authority requires that individuals with specified responsibilities, performing certain significant functions and/or those in certain other identified categories be designated as Senior Management Functions (SMFs).

SMFs are subject to specific compensation requirements, including longer deferral, blocking and clawback periods. The deferral period for SMFs is seven years, with the deferred performance awards vesting no faster than pro rata from years 3 to 7. Additionally, these awards are subject to a 12-month blocking period post vesting. The clawback policy for SMFs permits clawback for up to 10 years from the date of performance award grants (applicable if an individual is subject to an investigation at the end of the initial UK seven-year clawback period). All SMFs are also identified as MRTs and as such subject to the same prohibitions on dividend and interest payments.

Control functions and Group Internal Audit

Our control functions must be independent in order to monitor risk effectively. Therefore their compensation is determined separately from the revenue producers that they oversee, supervise or monitor. Their performance award pool is based not on the performance of these businesses, but on the performance of the Group as a whole. In addition, we consider other factors, such as how effectively the function has performed, and our market position. Decisions on individual compensation for the senior managers of the control functions are made by the function heads and approved by the Group CEO. Decisions on individual compensation for the members of Group Internal Audit (GIA) are made by the Head GIA and approved by the Chairman of the BoD. Upon proposal by the Chairman, total compensation for the Head GIA is approved by the Compensation Committee in consultation with the Audit Committee.

2019 performance award pool and expenses

Performance awards granted for the 2019 performance year

The "Variable compensation" table below shows the amount of variable compensation awarded to employees for the performance year 2019, together with the number of beneficiaries for each type of award granted. In the case of deferred awards, the final amount paid to an employee depends on performance conditions and consideration of relevant forfeiture provisions. The deferred share award amount is based on the market value of these awards on the date of grant.

Variable compensation[1]

	Expenses recognized in the IFRS income statement		Expenses deferred to future periods[4]		Adjustments[4]		Total		Number of beneficiaries	
USD million, except where indicated	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
Non-deferred cash	1,894	2,089	0	0	0	0	1,894	2,089	54,179	51,809
Deferred compensation awards	299	373	429	585	51	71	779	1,029	3,572	3,967
of which: Equity Ownership Plan	*122*	*217*	*205*	*325*	*35[5]*	*71[5]*	*362*	*613*	*3,228*	*3,768*
of which: Deferred Contingent Capital Plan	*113*	*131*	*173*	*238*	*0*	*0*	*286*	*369*	*3,552*	*3,934*
of which: Long-Term Incentive Plan	*39*	*0*	*25*	*0*	*16[5]*	*0*	*80*	*0*	*119*	*0*
of which: Asset Management EOP	*25*	*25*	*26*	*22*	*0*	*0*	*51*	*47*	*307*	*284*
Total variable compensation – performance award pool	2,193	2,461	429	585	51	71	2,673	3,118	54,210	51,819
Variable compensation – other[2]	159	162	117	180	(50)[6]	(96)[6]	226	246		
Financial advisor (FA) variable compensation[3]	3,265	3,266	548	484	0	0	3,813	3,750	6,549	6,850
Total variable compensation including FA variable compensation	5,617	5,889	1,093	1,250	2	(25)	6,711	7,114		

1 Expenses under "Variable compensation – other" and "Financial advisor variable compensation" are not part of UBS's performance award pool. 2 Comprised of replacement payments, forfeiture credits, severance payments, retention plan payments and interest expense related to the Deferred Contingent Capital Plan. 3 Financial advisor compensation consists of formulaic compensation based directly on compensable revenues generated by financial advisors and supplemental compensation calculated based on financial advisor productivity, firm tenure, new assets and other variables. It also includes expenses related to compensation commitments with financial advisors entered into at the time of recruitment that are subject to vesting requirements. 4 Estimates as of 31 December 2019 and 2018. Actual amounts to be expensed in future periods may vary, e.g., due to forfeiture of awards. 5 Represents estimated post-vesting transfer restriction and permanent forfeiture discounts. 6 Included in expenses deferred to future periods is an amount of USD 50 million (2018: USD 96 million) in interest expense related to the Deferred Contingent Capital Plan. As the amount recognized as performance award represents the present value of the award at the date it is granted to the employee, this amount is excluded.

2019 performance award pool and expenses

The performance award pool, which includes performance-based variable awards for 2019, was USD 2.7 billion, reflecting a decrease of 14% compared with 2018.

Performance award expenses for 2019 decreased 8% to USD 2.8 billion, reflecting the reduction of the performance award pool for 2019. The "Performance award pool and expenses" table below compares the performance award pool with performance award expenses.

Performance award pool and expenses

USD million, except where indicated	2019	2018	% change
Performance award pool[1]	2,673	3,118	(14)
of which: expenses deferred to future periods and accounting adjustments[2,3]	*480*	*657*	*(27)*
Performance award expenses accrued in the performance year	2,193	2,461	(11)
Performance award expenses related to prior performance years	562	534	5
Total performance award expenses recognized for the year[4]	2,755	2,995	(8)

1 Excluding employer-paid taxes and social security. 2 Estimate as of the end of the performance year. Actual amounts expensed in future periods may vary, e.g., due to forfeiture of awards. 3 Accounting adjustments represent estimated post-vesting transfer restriction and permanent forfeiture discounts. 4 Refer to "Note 30 Employee benefits: variable compensation" in the "Consolidated financial statements" section of this report for more information.

GEB and KRTs deferred compensation

The "GEB and KRTs deferred compensation" table below shows the current economic value of unvested outstanding deferred variable compensation awards subject to ex-post adjustments. For share-based plans, the economic value is determined based on the closing share price on 31 December 2019. For notional funds, it is determined using the latest available market price for the underlying funds at year-end 2019, and for deferred cash plans, it is determined based on the outstanding amount of cash owed to award recipients.

GEB and KRTs deferred compensation[1,2,3]

USD million, except where indicated	Relating to awards for 2019[4]	Relating to awards for prior years[5]	Total	*of which: exposed to ex-post explicit and / or implicit adjustments*	Total deferred compensation year-end 2018	Total amount of deferred compensation paid out in 2019[6]
GEB						
Deferred Contingent Capital Plan	21	99	120	*100%*	119	11
Equity Ownership Plan (including notional funds)	0	129	129	*100%*	145	25
Long-Term Incentive Plan	35	0	35	*100%*	0	0
KRTs						
Deferred Contingent Capital Plan	155	834	989	*100%*	1,051	133
Equity Ownership Plan (including notional funds)	182	698	880	*100%*	979	274
Long-Term Incentive Plan	48	0	48	*100%*	0	0
Total GEB and KRTs	442	1,760	2,202		2,294	442

1 Based on the specific plan vesting and reflecting the economic value of the outstanding awards, which may differ from the accounting expenses. Year-to-year reconciliations would also need to consider the impacts of additional items including off-cycle awards, FX movements, population changes, and dividend equivalent reinvestments. 2 Refer to "Note 30 Employee benefits: variable compensation" in the "Consolidated financial statements" section of the Annual Report 2019 for more information. 3 Starting with performance year 2017, GEB members and KRTs who are also MRTs are no longer permitted to receive dividend and interest payments. Accordingly, the amounts for the EOP/LTIP reflect the fair value of the non-dividend-bearing awards and for the DCCP the fair value of the granted non-interest-bearing awards. 4 Where applicable, amounts are translated into US dollars at the performance award currency exchange rate. For GEB members who were appointed to the GEB during 2019, awards have been pro-rated between KRT and GEB entries accordingly. 5 Takes into account the ex-post implicit adjustments, given the share price movements since grant. For GEB members who were appointed to the GEB part way through 2019, awards have been fully reflected in the GEB entries. Where applicable, amounts are translated from award currency into US dollars using FX rates as at 31 December 2019. 6 Valued at distribution price and FX rate for all awards distributed in 2019. For GEB members who were appointed to the GEB during 2019, value of the awards paid out according to their role at the time of distribution.

The "GEB and KRTs ex-post explicit and implicit adjustments to deferred compensation" table below shows the value of actual ex-post explicit and implicit adjustments to outstanding deferred compensation in the financial year 2019 for GEB members and KRTs.

Ex-post adjustments occur after an award has been granted. Explicit adjustments occur when we adjust compensation by forfeiting deferred awards. Implicit adjustments are unrelated to any action taken by the firm and occur as a result of price movements that affect the value of an award.

The total value of ex-post explicit adjustments made to UBS share awards in 2019, based on the approximately 7.0 million shares forfeited during 2019, is a reduction of USD 88.4 million.

GEB and KRTs ex-post explicit and implicit adjustments to deferred compensation

	Ex-post explicit adjustments to unvested awards[1]		Ex-post implicit adjustments to unvested awards[2]	
USD million	31.12.19	31.12.18	31.12.19	31.12.18
GEB				
Deferred Contingent Capital Plan	0	0	0	0
Equity Ownership Plan (including notional funds, if applicable)	0	0	(11)	(28)
KRTs				
Deferred Contingent Capital Plan	(3)	(17)	0	0
Equity Ownership Plan (including notional funds)	(3)	(13)	(44)	(166)
Total GEB and KRTs	(6)	(30)	(55)	(194)

1 Ex-post explicit adjustments are calculated as units forfeited during the year, valued at the share price on 31 December 2019 (USD 12.58) for 2019. The 2018 data is valued using the share price on 31 December 2018 (USD 12.38). For the notional funds awarded to Asset Management employees under the EOP, this represents the forfeiture credits recognized in 2019 and 2018. For the DCCP, the fair value at grant of the forfeited awards during the year is reflected. For GEB members who were appointed to the GEB during 2019, awards have been fully reflected in the GEB entries. 2 Ex-post implicit adjustments for UBS shares are calculated based on the difference between the weighted average grant date fair value and the share price at year-end. The amount for notional funds is calculated using the mark-to-market change during 2019 and 2018. For GEB members who were appointed to the GEB during 2019, awards have been fully reflected in the GEB entries.

Total personnel expenses for 2019

We employed 68,601 personnel (full-time equivalents) as of 31 December 2019. The net increase of 1,713 compared with 31 December 2018 was largely driven by a 2,583 FTE increase in Corporate Center, mainly as a result of the ongoing insourcing of certain activities from third-party vendors to our Business Solutions Centers, resulting in a decrease of approximately 2,200 outsourced staff. This was partly offset by a 944 FTE decrease in Global Wealth Management, reflecting the effect of cost management initiatives and a review of advisor portfolios.

The "Personnel expenses" table below shows our total personnel expenses for 2019. It includes salaries, pension expenses, social security contributions, variable compensation and other personnel costs. Variable compensation includes cash performance awards paid in 2020 for the 2019 performance year, the amortization of unvested deferred awards granted in previous years and the cost of deferred awards granted to employees who are eligible for retirement in the context of the compensation framework at the date of grant.

The performance award pool reflects the value of performance awards granted relating to the 2019 performance year, including awards that are paid out immediately and those that are deferred. To determine our variable compensation expenses, the following adjustments are required in order to reconcile the performance award pool to the expenses recognized in the Group's financial statements prepared in accordance with International Financial Reporting Standards (IFRS):

- reduction for expenses deferred to future periods (amortization of unvested awards granted in 2020 for the performance year 2019) and accounting adjustments; and
- addition for the 2019 amortization of unvested deferred awards granted in prior years.

As a large part of compensation consists of deferred awards, the amortization of unvested deferred awards granted in prior years forms a significant part of the IFRS expenses in both 2018 and 2019.

→ **Refer to "Note 6 Personnel expenses" and "Note 30 Employee benefits: variable compensation" in the "Consolidated financial statements" section of this report for more information**

Personnel expenses

	Expenses recognized in the IFRS income statement				
USD million	Related to the performance year 2019	Related to prior performance years	Total expenses recognized in 2019	Total expenses recognized in 2018	Total expenses recognized in 2017
Salaries[1]	6,518	0	6,518	6,448	6,154
Non-deferred cash	1,894	(26)	1,868	2,057	2,062
Deferred compensation awards	299	588	887	938	1,088
of which: Equity Ownership Plan	*122*	*300*	*422*	*526*	*583*
of which: Deferred Contingent Capital Plan	*113*	*262*	*375*	*357*	*444*
of which: Long-Term Incentive Plan	*39*	*0*	*39*	*0*	*0*
of which: Asset Management EOP	*25*	*26*	*51*	*53*	*57*
of which: Other performance awards	*0*	*0*	*0*	*2*	*4*
Total variable compensation – performance awards[2]	2,193	562	2,755	2,995	3,151
of which: guarantees for new hires	*15*	*14*	*29*	*43*	*36*
Replacement payments[3]	5	51	56	72	72
Forfeiture credits	0	(86)	(86)	(136)	(107)
Severance payments[4]	125	0	125	123	113
Retention plan and other payments	28	28	56	66	63
Deferred Contingent Capital Plan: interest expense	0	94	94	119	111
Total variable compensation – other[2]	159	88	246	243	252
Contractors	381	0	381	489	460
Social security	783	15	799	791	814
Pension and other post-employment benefit plans[5]	787	0	787	457	723
Financial advisor variable compensation[2,6]	3,265	778	4,043	4,054	4,064
Other personnel expenses	528	27	555	654	581
Total personnel expenses	14,614	1,470	16,084	16,132	16,199

1 Includes role-based allowances. 2 Refer to "Note 30 Employee benefits: variable compensation" in the "Consolidated financial statements" section of this report for more information. 3 Payments made to compensate employees for deferred awards forfeited as a result of joining UBS. 4 Includes legally obligated and standard severance payments. 5 Refer to "Note 29 Pension and other post-employment benefit plans" in the "Consolidated financial statements" section of this report for more information. 6 Consists of formulaic compensation based directly on compensable revenues generated by financial advisors and supplemental compensation calculated based on financial advisor productivity, firm tenure, new assets and other variables. It also includes expenses related to compensation commitments with financial advisors entered into at the time of recruitment that are subject to vesting requirements.

Vesting of outstanding awards granted in prior years subject to performance conditions

The tables below show the extent to which the performance conditions for awards granted in prior years have been met and the percentage of the awards that vest in 2020.

Equity Ownership Plan (EOP) 2014 / 2015, EOP 2015 / 2016, EOP 2016 / 2017 and EOP 2017 / 2018		
Performance conditions	Performance achieved	% of installment vesting
Adjusted return on tangible equity[1] and divisional return on attributed equity	The Group and divisional performance conditions have been satisfied. For EOP 2014 / 2015, the third and final installment for the Group Executive Board (GEB) members vests in full. For EOP 2015 / 2016, the second installment for the GEB members vests in full. For EOP 2016 / 2017, the first installment for the GEB members and the second installment for all other employees covered under the plan vest in full. For EOP 2017 / 2018, the first installment for all other employees covered under the plan vests in full.	100%

1 The assessment for vesting purposes excludes the effect of deferred tax assets (DTAs). Furthermore, DTAs, when positive, have never had an impact on the performance award vesting.

Deferred Contingent Capital Plan (DCCP) 2014 / 2015		
Performance conditions	Performance achieved	% of installment vesting
Common equity tier 1 (CET1) capital ratio, viability event and, additionally for GEB, Group adjusted profit before tax	The performance conditions have been satisfied. DCCP 2014 / 2015 vests in full.	100%

Discontinued deferred compensation plans

As of 31 December 2019, there were no discontinued compensation plans with outstanding balances. The firm has not granted any options since 2009.

→ **Refer to "Note 30 Employee benefits: variable compensation" in the "Consolidated financial statements" section of this report for more information**

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Share and option ownership / entitlements of GEB members[1]

Name, function	on 31 December	Number of unvested shares / at risk[2]	Number of vested shares	Total number of shares	Potentially conferred voting rights in %
Sergio P. Ermotti, Group Chief Executive Officer	2019	1,862,480	2,150,003	4,012,483	0.227
	2018	1,715,430	1,757,766	3,473,196	0.191
Martin Blessing, former Co-President Global Wealth Management	2019	–	–	–	–
	2018	256,356	0	256,356	0.014
Christian Bluhm, Group Chief Risk Officer	2019	440,953	0	440,953	0.025
	2018	259,745	0	259,745	0.014
Markus U. Diethelm, Group General Counsel	2019	698,402	458,426	1,156,828	0.065
	2018	614,222	317,516	931,738	0.051
Kirt Gardner, Group Chief Financial Officer	2019	532,643	129,807	662,450	0.037
	2018	343,120	107,472	450,592	0.025
Suni Harford, President Asset Management	2019	63,211	0	63,211	0.004
	2018	–	–	–	–
Robert Karofsky, Co-President Investment Bank	2019	577,606	492,476	1,070,082	0.061
	2018	500,902	254,119	755,021	0.042
Sabine Keller-Busse, Group Chief Operating Officer and President UBS EMEA	2019	423,778	315,922	739,700	0.042
	2018	259,762	263,362	523,124	0.029
Iqbal Khan, Co-President Global Wealth Management	2019	712,342	0	712,342	0.040
	2018	–	–	–	–
Edmund Koh, President Asia Pacific	2019	380,340	183,104	563,444	0.032
	2018	–	–	–	–
Ulrich Körner, former President Asset Management and President UBS EMEA	2019	–	–	–	–
	2018	910,951	95,597	1,006,548	0.055
Axel P. Lehmann, President Personal & Corporate Banking and President UBS Switzerland	2019	522,202	277,978	800,180	0.045
	2018	307,090	277,978	585,068	0.032
Tom Naratil, Co-President Global Wealth Management and President UBS Americas	2019	1,307,554	609,477	1,917,031	0.108
	2018	1,132,938	484,075	1,617,013	0.089
Piero Novelli, Co-President Investment Bank	2019	599,156	429,652	1,028,808	0.058
	2018	471,049	256,367	727,416	0.040
Markus Ronner, Group Chief Compliance and Governance Officer	2019	214,850	68,097	282,947	0.016
	2018	161,152	173	161,325	0.009
Total	2019	8,335,517	5,114,942	13,450,459	0.761
	2018	6,932,717	3,814,425	10,747,142	0.591

1 Includes all vested and unvested shares of GEB members, including those held by related parties. No options were held in 2019 and 2018 by any GEB member or any of its related parties. Refer to "Note 30 Employee benefits: variable compensation" in the "Consolidated financial statements" section of the Annual Report 2019 for more information. 2 Includes shares granted under variable compensation plans with forfeiture provisions. The actual number of shares vesting in the future will be calculated under the terms of the plans. Refer to the "Compensation philosophy and framework" section of this report for more information about the plans.

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Total of all vested and unvested shares of GEB members[1,2]

	Total	*of which: vested*	*of which: vesting*				
			2020	*2021*	*2022*	*2023*	*2024*
Shares on 31 December 2019	13,450,459	*5,114,942*	*1,798,389*	*1,811,721*	*2,199,926*	*1,517,110*	*1,008,371*
			2019	*2020*	*2021*	*2022*	*2023*
Shares on 31 December 2018	10,747,142	*3,814,425*	*1,745,323*	*1,761,048*	*1,738,595*	*1,146,636*	*541,112*

1 Includes shares held by related parties. 2 Includes shares granted under variable compensation plans with forfeiture provisions. The actual number of shares vesting in the future will be calculated under the terms of the plans. Refer to the "Compensation philosophy and framework" section of this report for more information.

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Number of shares of BoD members[1]

Name, function	on 31 December	Number of shares held	Voting rights in %
Axel A. Weber, Chairman	2019	938,627	0.053
	2018	764,329	0.042
Michel Demaré, former Vice Chairman[2]	2019	–	–
	2018	322,558	0.018
David Sidwell, Vice Chairman and Senior Independent Director	2019	167,595	0.009
	2018	189,805	0.010
Jeremy Anderson, member	2019	31,456	0.002
	2018	0	0.000
William C. Dudley, member[2]	2019	0	0.000
	2018	–	–
Reto Francioni, member	2019	125,628	0.007
	2018	98,832	0.005
Ann F. Godbehere, former member[2]	2019	–	–
	2018	259,225	0.014
Fred Hu, member	2019	15,145	0.001
	2018	0	0.000
Julie G. Richardson, member	2019	46,283	0.003
	2018	17,157	0.001
Isabelle Romy, member	2019	143,928	0.008
	2018	114,802	0.006
Robert W. Scully, member	2019	71,540	0.004
	2018	47,074	0.003
Beatrice Weder di Mauro, member	2019	172,397	0.010
	2018	145,601	0.008
Dieter Wemmer, member	2019	60,285	0.003
	2018	31,159	0.002
Jeanette Wong, member[2]	2019	0	0.000
	2018	–	–
Total	2019	1,772,884	0.100
	2018	1,990,542	0.109

1 Includes blocked and unblocked shares held by BoD members, including those held by related parties. No options were granted in 2019 and 2018. 2 At the 2019 AGM, William C. Dudley and Jeanette Wong were newly elected and Michel Demaré and Ann F. Godbehere did not stand for re-election.

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Total of all blocked and unblocked shares of BoD members[1]

	Total	*of which: unblocked*	*of which: blocked until*			
			2020	*2021*	*2022*	*2023*
Shares on 31 December 2019	1,772,884	*502,095*	*264,889*	*299,357*	*270,111*	*436,432*
			2019	*2020*	*2021*	*2022*
Shares on 31 December 2018	1,990,542	*636,397*	*323,051*	*335,587*	*366,570*	*328,937*

1 Includes shares held by related parties.

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Loans granted to GEB members[1]

In line with article 38 of the Articles of Association of UBS Group AG, Group Executive Board (GEB) members may be granted loans. Such loans are made in the ordinary course of business on substantially the same terms as those granted to other employees, including interest rates and collateral, and neither involve more than the normal risk of collectability nor contain any other unfavorable features for the firm. The total amount of such loans must not exceed CHF 20 million per GEB member.

CHF, except where indicated[2]			*USD (for reference)*
Name, function	on 31 December	Loans[3]	Loans[3]
Axel P. Lehmann, President Personal & Corporate Banking and President UBS Switzerland (highest loan in 2019)	2019	9,140,000	9,440,889
Ulrich Körner, former President Asset Management and President UBS EMEA (highest loan in 2018)	2018	8,240,000	
Aggregate of all GEB members[4]	2019	30,700,354	31,711,010
	2018	33,204,000	

1 No loans have been granted to related parties of the GEB members at conditions not customary in the market. 2 Swiss franc and US dollar amounts disclosed represent local currency amounts translated at the relevant year-end closing exchange rate. 3 All loans granted are secured loans. 4 No unused uncommitted credit facilities in 2019. Excludes unused uncommitted credit facilities of CHF 2,949,690 in 2018 that had been granted to one GEB member.

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Loans granted to BoD members[1]

In line with article 33 of the Articles of Association of UBS Group AG, loans to independent Board of Directors (BoD) members are made in the ordinary course of business at general market conditions. The Chairman, as a non-independent member, may be granted loans in the ordinary course of business on substantially the same terms as those granted to employees, including interest rates and collateral, neither involving more than the normal risk of collectability nor containing any other unfavorable features for the firm. The total amount of such loans must not exceed CHF 20 million per BoD member.

CHF, except where indicated[2]			*USD (for reference)*
	on 31 December	Loans[3,4]	Loans[3,4]
Aggregate of all BoD members	2019	890,439	919,752
	2018	600,000	

1 No loans have been granted to related parties of the BoD members at conditions not customary in the market. 2 Swiss franc and US dollar amounts disclosed represent local currency amounts translated at the relevant year-end closing exchange rate. 3 All loans granted are secured loans. 4 CHF 600,000 for Reto Francioni and CHF 290,439 for Dieter Wemmer in 2019 and CHF 600,000 for Reto Francioni in 2018.

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Compensation paid to former BoD and GEB members[1]

CHF, except where indicated[2]					*USD (for reference)*
	For the year	Compensation	Benefits	Total	Total
Former BoD members	2019	0	0	0	0
	2018	0	0	0	
Aggregate of all former GEB members[3]	2019	0	51,912	51,912	53,621
	2018	0	45,556	45,556	
Aggregate of all former BoD and GEB members	2019	0	51,912	51,912	53,621
	2018	0	45,556	45,556	

1 Compensation or remuneration that is related to the former members' activity on the BoD or GEB or that is not at market conditions. 2 Swiss franc and US dollar amounts disclosed represent local currency amounts translated at the relevant year-end closing exchange rate. 3 Includes a payment in 2019 and 2018 to one former GEB member.

Provisions of the Articles of Association related to compensation

Under the say-on-pay provisions in Switzerland, shareholders of companies listed in Switzerland have significant influence over board and management compensation. At UBS, this is achieved by means of an annual binding say-on-pay vote in accordance with the following provisions of the Articles of Association related to compensation.

Say on pay
In line with article 43 of the Articles of Association of UBS Group AG, the General Meeting shall approve the proposals of the Board of Directors in relation to:
a) the maximum aggregate amount of compensation of the Board of Directors for the period until the next Annual General Meeting;
b) the maximum aggregate amount of fixed compensation of the Group Executive Board for the following financial year; and
c) the aggregate amount of variable compensation of the Group Executive Board for the preceding financial year.

The Board of Directors may submit for approval by the General Meeting deviating or additional proposals relating to the same or different periods. In the event the General Meeting does not approve a proposal from the Board of Directors, the Board of Directors shall determine, taking into account all relevant factors, the respective (maximum) aggregate amount or (maximum) partial amounts and submit the amount(s) so determined for approval by the General Meeting. UBS Group AG or companies controlled by it may pay or grant compensation prior to approval by the General Meeting, subject to subsequent approval.

Principles of compensation
In line with articles 45 and 46 of the Articles of Association of UBS Group AG, compensation of the members of the Board of Directors shall comprise a base remuneration and may comprise other compensation elements and benefits. Compensation of the members of the Board of Directors is intended to recognize the responsibility and governance nature of their role, to attract and retain qualified individuals and to ensure alignment with shareholders' interests.

Compensation of the members of the Group Executive Board shall comprise fixed and variable compensation elements. Fixed compensation shall comprise the base salary and may comprise other compensation elements and benefits. Variable compensation elements shall be governed by financial and non-financial performance measures that take into account the performance of UBS Group AG and/or parts thereof, targets in relation to the market, other companies or comparable benchmarks, short- and long-term strategic objectives and/or individual targets. The Board of Directors or, where delegated to it, the Compensation Committee determines the respective performance measures, the overall and individual performance targets, and their achievements. The Board of Directors or, where delegated to it, the Compensation Committee aims to ensure alignment with sustainable performance and appropriate risk-taking through adequate deferrals, forfeiture conditions, caps on compensation, harmful acts provisions and similar means with regard to parts of or all of the compensation. Parts of variable compensation shall be subject to a multi-year vesting period.

Additional amount for GEB members appointed after the vote on the aggregate amount of compensation by the AGM
In line with article 46 of the Articles of Association of UBS Group AG, if the maximum aggregate amount of compensation already approved by the General Meeting is not sufficient to also cover the compensation of a person who becomes a member of or is being promoted within the Group Executive Board after the General Meeting has approved the compensation, UBS Group AG or companies controlled by it shall be authorized to pay or grant each such Group Executive Board member a supplementary amount during the compensation period(s) already approved. The aggregate pool for such supplementary amounts per compensation period shall not exceed 40% of the average of total annual compensation paid or granted to the Group Executive Board during the previous three years.

→ **Refer to *www.ubs.com/governance* for more information**

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To the General Meeting of
UBS Group AG, Zurich

Basel, 27 February 2020

Report of the statutory auditor on the compensation report

We have audited the compensation report dated 27 February 2020 of UBS Group AG for the year ended 31 December 2019. The audit was limited to the information according to articles 14 – 16 of the Ordinance against Excessive Compensation in Stock Exchange Listed Companies (Ordinance) contained in the following tables labeled "audited" of the compensation report: *Approved fixed compensation*, *Total compensation for GEB members*, *Compensation details and additional information for non-independent BoD members*, *Total payments to BoD members*, *Remuneration details and additional information for independent BoD members*, *Loans granted to GEB members*, *Loans granted to BoD members* and *Compensation paid to former BoD and GEB members*.

Board of Directors' responsibility

The Board of Directors is responsible for the preparation and overall fair presentation of the compensation report in accordance with Swiss law and the Ordinance. The Board of Directors is also responsible for designing the compensation system and defining individual compensation packages.

Auditor's responsibility

Our responsibility is to express an opinion on the compensation report. We conducted our audit in accordance with Swiss Auditing Standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the compensation report complies with Swiss law and articles 14 – 16 of the Ordinance.

An audit involves performing procedures to obtain audit evidence on the disclosures made in the compensation report with regard to compensation, loans and credits in accordance with articles 14 – 16 of the Ordinance. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatements in the compensation report, whether due to fraud or error. This audit also includes evaluating the reasonableness of the methods applied to value components of compensation, as well as assessing the overall presentation of the compensation report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Opinion

In our opinion, the compensation report for the year ended 31 December 2019 of UBS Group AG complies with Swiss law and articles 14 – 16 of the Ordinance.

Ernst & Young Ltd

Marie-Laure Delarue
Licensed audit expert
(Auditor in charge)

Bruno Patusi
Licensed audit expert

Consolidated financial statements

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Management's report on internal control over financial reporting

Management's responsibility for internal control over financial reporting

The Board of Directors and management of UBS Group AG (UBS) are responsible for establishing and maintaining adequate internal control over financial reporting. UBS's internal control over financial reporting is designed to provide reasonable assurance regarding the preparation and fair presentation of published financial statements in accordance with IFRS as issued by the IASB.

UBS's internal control over financial reporting includes those policies and procedures that:

→ pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect transactions and dispositions of assets;
→ provide reasonable assurance that transactions are recorded as necessary to permit preparation and fair presentation of financial statements, and that receipts and expenditures of the company are being made only in accordance with authorizations of UBS management; and
→ provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management's assessment of internal control over financial reporting as of 31 December 2019

UBS management has assessed the effectiveness of UBS's internal control over financial reporting as of 31 December 2019 based on the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control – Integrated Framework (2013 Framework). Based on this assessment, management believes that, as of 31 December 2019, UBS's internal control over financial reporting was effective.

The effectiveness of UBS's internal control over financial reporting as of 31 December 2019 has been audited by Ernst & Young Ltd, UBS's independent registered public accounting firm, as stated in their report appearing on pages 293 to 294, which expresses an unqualified opinion on the effectiveness of UBS's internal control over financial reporting as of 31 December 2019.

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Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of UBS Group AG

Opinion on Internal Control over Financial Reporting

We have audited UBS Group AG and subsidiaries' internal control over financial reporting as of 31 December 2019, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, UBS Group AG and subsidiaries ("the Company") maintained, in all material respects, effective internal control over financial reporting as of 31 December 2019, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of 31 December 2019 and 2018, the related consolidated income statements, statements of comprehensive income, statements of changes in equity and statements of cash flows for each of the three years in the period ended 31 December 2019, and the related notes and our report dated 27 February 2020 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Ernst & Young Ltd

Ernst & Young Ltd

Basel, 27 February 2020

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Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of UBS Group AG

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of UBS Group AG and subsidiaries ("the Company") as of 31 December 2019 and 2018, the related consolidated income statements, statements of comprehensive income, statements of changes in equity and statements of cash flows for each of the three years in the period ended 31 December 2019, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at 31 December 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended 31 December 2019, in conformity with the International Financial Reporting Standards as issued by the International Accounting Standards Board.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of 31 December 2019, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated 27 February 2020 expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's Board of Directors. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

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Valuation of complex or illiquid instruments at fair value in accordance with IFRS 9 and IFRS 13

Description of the Matter	At 31 December 2019, as explained in notes 1-3f and note 24 to the consolidated financial statements, the Company held financial instruments that did not trade in active markets. These instruments are reported within the following accounts: financial assets and liabilities at fair value held for trading, derivative financial instruments, financial assets and liabilities at fair value not held for trading, and debt issued designated at fair value. In determining the fair value of these financial instruments, the Company used valuation techniques, modelling assumptions, and estimates of unobservable market inputs which required complex and significant judgment. Auditing management's judgments and assumptions used in the estimation of the fair value of complex or illiquid instruments was complex due to the highly judgmental nature of valuation techniques, modelling assumptions and significant unobservable inputs. Judgmental valuation techniques were comprised of discounted cash flow and earnings-based valuation techniques. Judgmental modelling assumptions result from a range of different models or model calibrations used by market participants. Judgmental valuation inputs include volatility, correlation, credit spreads and bond price equivalent inputs to the valuation of certain financial instruments where there is a limited degree of observability, and where there is judgmental extrapolation or interpolation and calibration of curves using limited data points, as well as judgmental use of proxy data points.
How We Addressed the Matter in Our Audit	We obtained an understanding, evaluated the design and tested the operating effectiveness of the controls over management's financial instruments valuation processes, including controls over market data inputs into valuation models, model governance, and valuation adjustments. We tested the valuation techniques, models and methodologies, and the inputs used in those models, as outlined above, by performing an independent revaluation of certain complex or illiquid financial assets and liabilities with the support of a specialist, using independent models and inputs, and comparing inputs to available market data among other procedures. In addition, we evaluated the methodology and inputs used by management in determining funding and credit fair value adjustments on uncollateralized derivatives and fair value option liabilities. We also assessed management's disclosures regarding fair value measurement (within notes 1-3f and 24 to the consolidated financial statements).

Recognition of deferred tax assets

Description of the Matter	At 31 December 2019, the Company's Deferred Tax Assets ("DTA") were USD 9,537 million (see Note 8 to the Company's consolidated financial statements). DTAs are recognized to the extent it is probable that taxable profits will be available, against which, the deductible temporary differences or the carryforward of unused tax losses within the loss carryforward period can be utilized. There is significant judgment exercised when estimating the future taxable income that is not based on the reversal of taxable temporary differences. Management's estimate of future taxable profits is based on the legal entity strategic plans and is sensitive to the assumptions made in estimating future taxable

income. Additionally, management supports a portion of the net DTA position with tax planning strategies.

Auditing management's assessment of the realizability of the Company's DTAs was complex due to the highly judgmental nature of estimating future taxable profits over the life of the underlying tax loss carryforwards. Estimating future profitability is inherently subjective and is sensitive to future economic, market and other conditions, which are difficult to predict. Specifically, some of the more subjective macro-economic assumptions used included gross domestic product, equity market performance, and interest rates. Additionally, auditing tax planning strategies requires specific tax knowledge and understanding of the applicable tax laws, which are complex and require judgment in the interpretation of such laws and the related application.

How We Addressed the Matter in Our Audit

We evaluated the design and tested the operational effectiveness of management's controls over DTA valuation, which included the assumptions used in developing the legal entity strategic plans, tax planning strategies and estimating future taxable income. We assessed the completeness and accuracy of the data used for the estimations of future taxable income. This included recalculating the outputs of the models applied to the recognition process for DTAs.

We involved specialists to assist in assessing the key economic assumptions embedded in the legal entity strategic plans. We compared key inputs used to forecast future taxable income to externally available historical and prospective data and assumptions; and assessed the sensitivity of the outcomes using reasonably possible changes in assumptions.

In addition, we assessed the appropriateness and impact of management's tax planning strategies by evaluating whether these strategies were reasonable, available, feasible, and prudent. This evaluation was based on applicable tax laws and an assessment of management's interpretations of such tax laws, our understanding of the Company's business and industry, and the Company's ability to implement the strategies.

We also assessed management's disclosure regarding recognized and unrecognized DTAs (within note 8 to the consolidated financial statements).

Legal Provisions & Contingent Liabilities

Description of the Matter

At 31 December 2019, the Company's provisions for litigation, regulatory and similar matters (legal provisions) were USD 2,475 million. As explained in note 21 to the consolidated financial statements, the Company operates in a legal and regulatory environment that is exposed to significant litigation and similar risks arising from disputes and regulatory proceedings. Such matters are subject to many uncertainties and the outcomes may be difficult to predict. These uncertainties inherently affect the amount and timing of potential outflows with respect to the legal provisions which have been established and contingent liabilities.

Auditing management's assessment of legal provisions and contingent liabilities was complex and judgmental due to the significant estimation required to evaluate management's estimate of the probability that an outflow of resources will be required for existing legal matters. In particular, these legal provisions are based on management's estimation of the likelihood of the occurrence of certain scenarios and related impact on the Company's financial position.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design and tested the operational effectiveness of management's controls over the legal provision and contingencies process. Our procedures included testing of management's review of the accuracy of the inputs to the estimation of the likelihood of the occurrence of certain scenarios and related impact on the Company's financial position.

We assessed the methodologies on which the provision amounts were based with the involvement of specialists, recalculated the provisions, and tested the underlying information. We read the legal analyses of the matters supporting the judgmental aspects impacted by legal interpretations. We obtained correspondence directly from external legal counsel to assess the information provided by management and performed inquiries with external counsel as deemed necessary.

We also assessed management's disclosure regarding legal provisions and contingent liabilities (within note 21 to the consolidated financial statements).

Expected Credit Losses

Description of the Matter

At 31 December 2019, the Company's allowances and provisions for expected credit losses ("ECL") was USD 1,029 million. As explained in note 1-3g, note 10 and note 23 to the consolidated financial statements, ECL is recognized for financial assets measured at amortized cost, financial assets measured at Fair Value Through Other Comprehensive Income, fee and lease receivables, financial guarantees and loan commitments. ECL are also recognized on the undrawn portion of revolving revocable credit lines, which include the Company's credit card limits and master credit facilities. The allowance for ECL consists of exposures that are in default which are individually evaluated for impairment (stage 3), as well as losses inherent in the loan portfolio that are not specifically identified (stage 1 and stage 2). Management's estimates for ECL represent the difference between contractual cash flows and those the Company expects to receive, discounted at the effective interest rate. The method used to calculate ECL is based on a combination of the following principal factors: probability of default ("PD"), loss given default ("LGD") and exposure at default ("EAD").

Auditing management's estimate of the allowances and provisions for ECL was complex due to the highly judgmental nature of forward-looking economic scenarios, their probability weightings and the credit risk models used to estimate stage 1 and stage 2 ECL.

Auditing the measurement of individual ECL for stage 3 was complex due to the high degree of judgment involved in management's process for estimating ECL based on LGD assumptions. These LGD assumptions take into account expected future cash flows from collateral and other credit enhancements or expected payouts from bankruptcy proceedings for unsecured claims and, where applicable, time to realization of collateral and the seniority of claims.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design and tested the operational effectiveness of management's controls over the ECL estimate, including management's choice of, and the probability weighting assigned to, the forward-looking economic scenarios used in measuring ECL. We evaluated management's methodologies and governance controls for developing and monitoring the economic scenarios used and the probability weightings assigned to them. Supported by specialists, we assessed the key macroeconomic variables used in the forward-looking scenarios, such as gross domestic product, unemployment rate, interest rates and house price indexes.

We obtained an understanding, evaluated the design and tested the operating effectiveness of controls, over credit risk models used in the ECL estimate, including controls over the completeness and accuracy of input data for those models, the calculation logic of the models, and the model's output data used in the overall ECL calculation. With the support of specialists, we performed an evaluation of management's models and tested the model outcomes by inspecting model documentation and reperforming model calculations among other procedures.

For the measurement of stage 3, we obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company's process, including an evaluation of the assumptions used by management regarding the future cash flows from the debtors' continuing operations and/or the liquidation of collateral. Additionally, we tested collateral valuation, cash flow assumptions and exit strategies, by performing inquiries of management, inspecting underlying documents, such as loan contracts, financial statements, covenants, budgets and business plans, and by re-performing discounted cash flow calculations among other procedures.

We also assessed management's disclosure regarding financial assets at amortized cost and other positions in scope of expected credit loss measurement (note 1-3g, note 10 and note 23 to the consolidated financial statements).

Ernst & Young Ltd

Ernst & Young Ltd

We have served as the Company's auditor since 1998.

Basel, 27 February 2020

UBS Group AG consolidated financial statements

Primary financial statements

Audited |

Income statement

		For the year ended		
USD million	Note	31.12.19	31.12.18	31.12.17
Interest income from financial instruments measured at amortized cost and fair value through other comprehensive income	3	10,684	10,100	10,422
Interest expense from financial instruments measured at amortized cost	3	(7,194)	(6,391)	(5,404)
Interest income from financial instruments measured at fair value through profit or loss	3	4,714	4,660	2,281
Interest expense from financial instruments measured at fair value through profit or loss	3	(3,703)	(3,322)	(1,228)
Net interest income	3	4,501	5,048	6,070
Other net income from financial instruments measured at fair value through profit or loss	3	6,842	6,960	5,637
Credit loss (expense) / recovery	23	(78)	(118)	(131)
Fee and commission income	4	19,110	19,598	19,362
Fee and commission expense	4	(1,696)	(1,703)	(1,840)
Net fee and commission income	4	17,413	17,895	17,522
Other income	5	212	428	524
Total operating income		28,889	30,213	29,622
Personnel expenses	6	16,084	16,132	16,199
General and administrative expenses	7	5,288	6,797	6,949
Depreciation and impairment of property, equipment and software	15	1,765	1,228	1,053
Amortization and impairment of goodwill and intangible assets	16	175	65	71
Total operating expenses		23,312	24,222	24,272
Operating profit / (loss) before tax		5,577	5,991	5,351
Tax expense / (benefit)	8	1,267	1,468	4,305
Net profit / (loss)		4,310	4,522	1,046
Net profit / (loss) attributable to non-controlling interests		6	7	77
Net profit / (loss) attributable to shareholders		4,304	4,516	969

Earnings per share (USD)

Basic	9	1.17	1.21	0.26
Diluted	9	1.14	1.18	0.25

Statement of comprehensive income

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Comprehensive income attributable to shareholders			
Net profit / (loss)	4,304	4,516	969
Other comprehensive income that may be reclassified to the income statement			
Foreign currency translation			
Foreign currency translation movements related to net assets of foreign operations, before tax	200	(725)	1,595
Effective portion of changes in fair value of hedging instruments designated as net investment hedges, before tax	(134)	181	(55)
Foreign currency translation differences on foreign operations reclassified to the income statement	52	3	32
Effective portion of changes in fair value of hedging instruments designated as net investment hedges reclassified to the income statement	(14)	2	(6)
Income tax relating to foreign currency translations, including the effect of net investment hedges	0	(2)	(2)
Subtotal foreign currency translation, net of tax	104	(541)	1,564
Financial assets measured at fair value through other comprehensive income			
Net unrealized gains / (losses), before tax	189	(56)	96
Impairment charges reclassified to the income statement from equity	0	0	15
Realized gains reclassified to the income statement from equity	(33)	0	(209)
Realized losses reclassified to the income statement from equity	2	0	14
Income tax relating to net unrealized gains / (losses)	(41)	12	(6)
Subtotal financial assets measured at fair value through other comprehensive income, net of tax	117	(45)	(91)
Cash flow hedges of interest rate risk			
Effective portion of changes in fair value of derivative instruments designated as cash flow hedges, before tax	1,571	(42)	45
Net (gains) / losses reclassified to the income statement from equity	(175)	(294)	(843)
Income tax relating to cash flow hedges	(253)	67	163
Subtotal cash flow hedges, net of tax	1,143	(269)	(635)
Total other comprehensive income that may be reclassified to the income statement, net of tax	1,363	(855)	838
Other comprehensive income that will not be reclassified to the income statement			
Defined benefit plans			
Gains / (losses) on defined benefit plans, before tax	(146)	(220)	286
Income tax relating to defined benefit plans	(41)	276	11
Subtotal defined benefit plans, net of tax	(186)	56	296
Own credit on financial liabilities designated at fair value			
Gains / (losses) from own credit on financial liabilities designated at fair value, before tax	(400)	517	(315)
Income tax relating to own credit on financial liabilities designated at fair value	8	(8)	(2)
Subtotal own credit on financial liabilities designated at fair value, net of tax	(392)	509	(317)
Total other comprehensive income that will not be reclassified to the income statement, net of tax	(578)	565	(20)
Total other comprehensive income	785	(290)	818
Total comprehensive income attributable to shareholders	5,089	4,225	1,787

Table continues on the next page.

Statement of comprehensive income (continued)

Table continued from previous page.

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Comprehensive income attributable to non-controlling interests			
Net profit / (loss)	6	7	77
Other comprehensive income that will not be reclassified to the income statement			
Foreign currency translation movements, before tax	(4)	(1)	250
Income tax relating to foreign currency translation movements	0	0	0
Subtotal foreign currency translation, net of tax	(4)	(1)	250
Total other comprehensive income that will not be reclassified to the income statement, net of tax	(4)	(1)	250
Total comprehensive income attributable to non-controlling interests	2	5	326
Total comprehensive income			
Net profit / (loss)	4,310	4,522	1,046
Other comprehensive income	781	(292)	1,068
of which: other comprehensive income that may be reclassified to the income statement	*1,363*	*(855)*	*838*
of which: other comprehensive income that will not be reclassified to the income statement	*(582)*	*563*	*229*
Total comprehensive income	5,091	4,231	2,113

Balance sheet

USD million	Note	31.12.19	31.12.18
Assets			
Cash and balances at central banks		107,068	108,370
Loans and advances to banks	10	12,447	16,868
Receivables from securities financing transactions	10, 25	84,245	95,349
Cash collateral receivables on derivative instruments	10, 25	23,289	23,602
Loans and advances to customers	10	326,786	320,352
Other financial assets measured at amortized cost	10, 17a	22,980	22,563
Total financial assets measured at amortized cost		576,815	587,104
Financial assets at fair value held for trading	12, 24	127,514	104,370
of which: assets pledged as collateral that may be sold or repledged by counterparties		*41,285*	*32,121*
Derivative financial instruments	11, 24, 25	121,841	126,210
Brokerage receivables	24	18,007	16,840
Financial assets at fair value not held for trading	13, 24	83,944	82,690
Total financial assets measured at fair value through profit or loss		351,307	330,110
Financial assets measured at fair value through other comprehensive income	14, 24	6,345	6,667
Investments in associates	31b	1,051	1,099
Property, equipment and software	15	12,804	9,348
Goodwill and intangible assets	16	6,469	6,647
Deferred tax assets	8	9,537	10,105
Other non-financial assets	17b	7,856	7,410
Total assets		972,183	958,489
Liabilities			
Amounts due to banks	18	6,570	10,962
Payables from securities financing transactions	25	7,778	10,296
Cash collateral payables on derivative instruments	25	31,415	28,906
Customer deposits	18	448,284	419,838
Debt issued measured at amortized cost	20	110,497	132,271
Other financial liabilities measured at amortized cost	22a	9,712	6,885
Total financial liabilities measured at amortized cost		614,256	609,158
Financial liabilities at fair value held for trading	12, 24	30,591	28,943
Derivative financial instruments	11, 24, 25	120,880	125,723
Brokerage payables designated at fair value	24	37,233	38,420
Debt issued designated at fair value	19, 24	66,809	57,031
Other financial liabilities designated at fair value	22b, 24	35,940	33,594
Total financial liabilities measured at fair value through profit or loss		291,452	283,711
Provisions	21a	2,974	3,494
Other non-financial liabilities	22c	8,794	9,022
Total liabilities		917,476	905,386
Equity			
Share capital		338	338
Share premium		18,064	20,843
Treasury shares		(3,326)	(2,631)
Retained earnings		34,154	30,448
Other comprehensive income recognized directly in equity, net of tax		5,303	3,930
Equity attributable to shareholders		54,533	52,928
Equity attributable to non-controlling interests		174	176
Total equity		54,707	53,103
Total liabilities and equity		972,183	958,489

Statement of changes in equity

USD million	Share capital	Share premium	Treasury shares	Retained earnings
Balance as of 1 January 2017	338	25,958	(2,362)	25,029
Issuance of share capital				
Acquisition of treasury shares			(908)[3]	
Delivery of treasury shares under share-based compensation plans		(879)	994	
Other disposal of treasury shares		1	66[3]	
Premium on shares issued and warrants exercised		19		
Share-based compensation expensed in the income statement		735		
Tax (expense) / benefit		21		
Dividends		(2,259)[2]		
Preferred notes				
Translation effects recognized directly in retained earnings				(46)
New consolidations / (deconsolidations) and other increases / (decreases)		1		
Total comprehensive income for the year				949
of which: net profit / (loss)				*969*
of which: other comprehensive income (OCI) that may be reclassified to the income statement, net of tax				
of which: OCI that will not be reclassified to the income statement, net of tax – defined benefit plans				*296*
of which: OCI that will not be reclassified to the income statement, net of tax – own credit				*(317)*
of which: OCI that will not be reclassified to the income statement, net of tax – foreign currency translation				
Balance as of 31 December 2017	338	23,598	(2,210)	25,932
Effect of adoption of IFRS 9				(518)
Effect of adoption of IFRS 15				(25)
Balance as of 1 January 2018 after the adoption of IFRS 9 and IFRS 15	338	23,598	(2,210)	25,389
Issuance of share capital	0			
Acquisition of treasury shares			(1,608)[3]	
Delivery of treasury shares under share-based compensation plans		(1,009)	1,137	
Other disposal of treasury shares			50[3]	
Premium on shares issued and warrants exercised		22		
Share-based compensation expensed in the income statement		676		
Tax (expense) / benefit		4		
Dividends		(2,440)[2]		
Translation effects recognized directly in retained earnings				(21)
New consolidations / (deconsolidations) and other increases / (decreases)		(7)		
Total comprehensive income for the year				5,080
of which: net profit / (loss)				*4,516*
of which: other comprehensive income (OCI) that may be reclassified to the income statement, net of tax				
of which: OCI that will not be reclassified to the income statement, net of tax – defined benefit plans				*56*
of which: OCI that will not be reclassified to the income statement, net of tax – own credit				*509*
of which: OCI that will not be reclassified to the income statement, net of tax – foreign currency translation				
Balance as of 31 December 2018	338	20,843	(2,631)	30,448

Other comprehensive income recognized directly in equity, net of tax[1]	of which: foreign currency translation	of which: financial assets at fair value through other comprehensive income	of which: cash flow hedges	Total equity attributable to shareholders	Non-controlling interests	Total equity
3,953	2,901	96	955	52,916	670	53,586
				0		0
				(908)		(908)
				115		115
				67		67
				19		19
				735		735
				21		21
				(2,259)	(77)	(2,337)
				0	(878)	(878)
46		7	39	0		0
				1	17	18
838	1,564	(91)	(635)	1,787	326	2,113
				969	77	1,046
838	1,564	(91)	(635)	838		838
				296		296
				(317)		(317)
				0	250	250
4,838	4,466	13	360	52,495	59	52,554
(74)		(74)		(591)		(591)
				(25)		(25)
4,764	4,466	(61)	360	51,879	59	51,938
				0		0
				(1,608)		(1,608)
				128		128
				50		50
				22		22
				676		676
				4		4
				(2,440)	(10)	(2,450)
21		3	18	0		0
				(7)	122	115
(855)	(541)	(45)	(269)	4,225	5	4,231
				4,516	7	4,522
(855)	(541)	(45)	(269)	(855)		(855)
				56		56
				509		509
				0	(1)	(1)
3,930	3,924	(103)	109	52,928	176	53,103

Statement of changes in equity (continued)

USD million	Share capital	Share premium	Treasury shares	Retained earnings
Balance as of 31 December 2018	338	20,843	(2,631)	30,448
Effect of adoption of IFRIC 23				(11)
Balance as of 1 January 2019 after the adoption of IFRIC 23	338	20,843	(2,631)	30,437
Issuance of share capital	0			
Acquisition of treasury shares			(1,771)[3]	
Delivery of treasury shares under share-based compensation plans		(886)	983	
Other disposal of treasury shares		(2)	94[3]	
Premium on shares issued and warrants exercised		29		
Share-based compensation expensed in the income statement		619		
Tax (expense) / benefit		11		
Dividends		(2,544)[2]		
Translation effects recognized directly in retained earnings				(9)
New consolidations / (deconsolidations) and other increases / (decreases)		(6)		
Total comprehensive income for the year				3,726
of which: net profit / (loss)				*4,304*
of which: other comprehensive income (OCI) that may be reclassified to the income statement, net of tax				
of which: OCI that will not be reclassified to the income statement, net of tax – defined benefit plans				*(186)*
of which: OCI that will not be reclassified to the income statement, net of tax – own credit				*(392)*
of which: OCI that will not be reclassified to the income statement, net of tax – foreign currency translation				
Balance as of 31 December 2019	338	18,064	(3,326)	34,154

1 Excludes defined benefit plans and own credit that are recorded directly in Retained earnings. 2 Reflects the payment of an ordinary cash dividend of CHF 0.70 (2018: CHF 0.65; 2017: CHF 0.60) per dividend-bearing share out of the capital contribution reserve. 3 Includes treasury shares acquired and disposed of by the Investment Bank in its capacity as a market-maker with regard to UBS shares and related derivatives, and to hedge certain issued structured debt instruments. These acquisitions and disposals are reported based on the sum of the net monthly movements.

Other comprehensive income recognized directly in equity, net of tax[1]	*of which: foreign currency translation*	*of which: financial assets at fair value through other comprehensive income*	*of which: cash flow hedges*	Total equity attributable to shareholders	Non-controlling interests	Total equity
3,930	*3,924*	*(103)*	*109*	52,928	176	53,103
				(11)		(11)
3,930	*3,924*	*(103)*	*109*	52,917	176	53,092
				0		0
				(1,771)		(1,771)
				97		97
				92		92
				29		29
				619		619
				11		11
				(2,544)	(8)	(2,552)
9		*0*	*9*	0		0
				(6)	5	(1)
1,363	*104*	*117*	*1,143*	5,089	2	5,091
				4,304	*6*	*4,310*
1,363	*104*	*117*	*1,143*	*1,363*		*1,363*
				(186)		*(186)*
				(392)		*(392)*
				0	*(4)*	*(4)*
5,303	*4,028*	*14*	*1,260*	54,533	174	54,707

UBS Group AG shares issued and treasury shares held

Number of shares	2019	2018
Shares issued		
Balance at the beginning of the year	3,855,634,749	3,853,096,603
Issuance of shares	3,420,646	2,538,146
Balance at the end of the year	3,859,055,395	3,855,634,749
Treasury shares		
Balance at the beginning of the year	166,467,802	132,301,550
Acquisitions	146,876,692	103,979,927
Disposals	(70,323,198)	(69,813,675)
Balance at the end of the year	243,021,296	166,467,802

Conditional share capital

As of 31 December 2019, a maximum of CHF 12,170,583, represented by 121,705,830 fully paid registered shares with a par value of CHF 0.10 each, was available to be issued to fund UBS's employee share option programs.

Additional conditional capital up to a maximum of CHF 38,000,000, represented by up to 380,000,000 fully paid registered shares with a nominal value of CHF 0.10 each, was available as of 31 December 2019 for conversion rights and warrants granted in connection with the issuance of bonds or similar financial instruments.

Authorized share capital

UBS Group AG had no authorized capital available to issue on 31 December 2019.

Share repurchase program

UBS has an active share repurchase program to buy back up to CHF 2 billion of its own shares over the three-year period starting from March 2018. Under this program, UBS purchased 69 million shares totaling USD 806 million in 2019 (2018: 48 million shares totaling USD 762 million).

Statement of cash flows

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Cash flow from / (used in) operating activities			
Net profit / (loss)	4,310	4,522	1,046
Non-cash items included in net profit and other adjustments:			
Depreciation and impairment of property, equipment and software	1,765	1,228	1,053
Impairment of goodwill	110	0	0
Amortization and impairment of intangible assets	65	65	71
Credit loss expense / (recovery)	78	118	131
Share of net profits of associates / joint ventures and impairment of associates	(45)	(528)	(69)
Deferred tax expense / (benefit)	477	425	3,414
Net loss / (gain) from investing activities	220	(46)	(198)
Net loss / (gain) from financing activities	6,493	(4,828)	2,109
Other net adjustments	854	(1,179)	(855)
Net change in operating assets and liabilities:			
Loans and advances to banks / amounts due to banks	(4,336)	3,504	(3,234)
Securities financing transactions	8,678	(11,230)	(111)
Cash collateral on derivative instruments	2,839	(1,447)	(2,454)
Loans and advances to customers	(3,128)	(5,213)	(14,471)
Customer deposits	23,217	9,138	(12,962)
Financial assets and liabilities at fair value held for trading and derivative financial instruments	(18,829)	11,107	(23,544)
Brokerage receivables and payables	(2,347)	11,432	
Financial assets at fair value not held for trading, other financial assets and liabilities	33	11,115	(1,978)
Provisions, other non-financial assets and liabilities	55	1,682	996
Income taxes paid, net of refunds	(804)	(951)	(1,044)
Net cash flow from / (used in) operating activities	19,705	28,913	(52,099)
Cash flow from / (used in) investing activities			
Purchase of subsidiaries, associates and intangible assets	(26)	(287)	(106)
Disposal of subsidiaries, associates and intangible assets[1]	114	137	339
Purchase of property, equipment and software	(1,584)	(1,688)	(1,627)
Disposal of property, equipment and software	11	114	47
Purchase of financial assets measured at fair value through other comprehensive income	(3,424)	(1,999)	(8,626)
Disposal and redemption of financial assets measured at fair value through other comprehensive income	3,913	1,361	15,250
Net (purchase) / redemption of debt securities measured at amortized cost	(562)	(3,770)	
Net (purchase) / redemption of financial assets held to maturity			(91)
Net cash flow from / (used in) investing activities	(1,558)	(6,132)	5,186

Table continues on the next page.

Statement of cash flows (continued)

Table continued from previous page.

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Cash flow from / (used in) financing activities			
Net short-term debt issued / (repaid)	(17,149)	(12,245)	24,500
Net movements in treasury shares and own equity derivative activity	(1,559)	(1,431)	(730)
Distributions paid on UBS shares	(2,544)	(2,440)	(2,259)
Repayment of lease liabilities[2]	(518)		
Issuance of long-term debt, including debt issued designated at fair value	65,047	60,682	51,450
Repayment of long-term debt, including debt issued designated at fair value	(68,883)	(44,344)	(45,187)
Net changes in non-controlling interests and preferred notes	(8)	(31)	(787)
Net cash flow from / (used in) financing activities	(25,614)	190	26,988
Total cash flow			
Cash and cash equivalents at the beginning of the year	126,079	104,834	119,014
Net cash flow from / (used in) operating, investing and financing activities	(7,467)	22,971	(19,925)
Effects of exchange rate differences on cash and cash equivalents	1,261	(1,726)	5,745
Cash and cash equivalents at the end of the year[3]	119,873	126,079	104,834
of which: cash and balances at central banks[4]	*106,957*	*108,268*	*89,968*
of which: loans and advances to banks	*11,386*	*15,678*	*12,773*
of which: money market paper[5]	*1,530*	*2,133*	*2,093*
Additional information			
Net cash flow from / (used in) operating activities includes:			
Interest received in cash[6]	15,315	14,645	12,708
Interest paid in cash[6]	10,769	9,206	6,689
Dividends on equity investments, investment funds and associates received in cash[7]	3,145	2,322	1,828

1 Includes dividends received from associates. 2 Upon adoption of IFRS 16 on 1 January 2019, cash payments for the principal portion of the lease liability previously classified within operating activities have been reclassified to financing activities. 3 USD 3,192 million, USD 5,245 million and USD 2,497 million of cash and cash equivalents (mainly reflected in Loans and advances to banks) were restricted as of 31 December 2019, 31 December 2018 and 31 December 2017, respectively. Refer to "Note 26 Restricted and transferred financial assets" in the "Consolidated financial statements" section of the Annual Report 2019 for more information. 4 Includes only balances with an original maturity of three months or less. 5 Money market paper is included in the balance sheet under Financial assets at fair value held for trading (31 December 2019: USD 235 million; 31 December 2018: USD 366 million; 31 December 2017: USD 135 million), Financial assets measured at fair value through other comprehensive income (31 December 2019: USD 24 million; 31 December 2018: USD 8 million; 31 December 2017: USD 17 million), Financial assets at fair value not held for trading (31 December 2019: USD 920 million; 31 December 2018: USD 1,556 million; 31 December 2017: USD 1,941 million) and Other financial assets measured at amortized cost (31 December 2019: USD 351 million; 31 December 2018: USD 204 million; 31 December 2017: USD 0 million). 6 Interest received and paid in cash was restated to represent the total of interest on financial instruments measured at amortized cost / fair value through other comprehensive income (31 December 2018: USD 9,997 million interest received and USD 6,382 million interest paid and 31 December 2017: USD 10,455 million interest received and USD 5,425 million interest paid) and interest on financial instruments measured at fair value through profit or loss (31 December 2018: USD 4,648 million interest received and USD 2,823 million interest paid and 31 December 2017: USD 2,254 million interest received and USD 1,264 million interest paid). 7 Includes dividends received from associates reported within Net cash flow from / (used in) investing activities.

Changes in liabilities arising from financing activities

USD million	Debt issued measured at amortized cost	*of which: short-term*	*of which: long-term*	Debt issued designated at fair value	Over-the-counter (OTC) debt instruments[2]	Total
Balance as of 1 January 2018	143,160	*52,270*	*90,890*	50,782	4,428	198,371
Cash flows	(7,402)	*(12,245)*	*4,843*	13,332	(1,838)	4,092
Non-cash changes	(3,488)	*(1,000)*	*(2,487)*	(7,083)	(140)	(10,711)
of which: foreign currency translation	*(3,155)*	*(1,000)*	*(2,155)*	*309*	*(59)*	*(2,905)*
of which: fair value changes				*(7,392)*	*(82)*	*(7,475)*
of which: other	*(332)*	*0*	*(332)[1]*	*0*	*0*	*(332)*
Balance as of 31 December 2018	132,271	*39,025*	*93,246*	57,031	2,450	191,752
Cash flows	(22,704)	*(17,149)*	*(5,555)*	2,144	(425)	(20,985)
Non-cash changes	930	*(39)*	*969*	7,634	(3)	8,560
of which: foreign currency translation	*(476)*	*(39)*	*(438)*	*212*	*(6)*	*(270)*
of which: fair value changes				*7,421*	*3*	*7,424*
of which: other	*1,406*	*0*	*1,406[1]*	*0*	*0*	*1,406*
Balance as of 31 December 2019	110,497	*21,837*	*88,660*	66,809	2,022	179,327

1 Includes the effect of fair value hedges on long-term debt. Refer to Note 1a item 3j and Note 20 for more information. 2 Included in balance sheet line Other financial liabilities designated at fair value.

Notes to the UBS Group AG consolidated financial statements

Note 1 Summary of significant accounting policies

The following table provides an overview of information included in this Note.

Accounting policies applicable to prior periods

The accounting policies described in Note 1a have been applied consistently in 2019, 2018 and 2017 unless otherwise stated in Note 1b. Exceptions include IFRS 9, *Financial Instruments* (effective from 1 January 2018), IFRS 15, *Revenue from Contracts with Customers* (effective from 1 January 2018), and IFRS 16, *Leases* (effective from 1 January 2019).

Within Note 1a, policies applied in 2018 and 2017, or only in 2017 that differ from those applied to the financial year ended 31 December 2019 are identified with a **Comparative policy |** signpost. A triangle symbol – ▲ – indicates the end of these comparative policy sections.

Note 1 Summary of significant accounting policies (continued)

a) Significant accounting policies

This Note describes the significant accounting policies applied in the preparation of the consolidated financial statements (the Financial Statements) of UBS Group AG and its subsidiaries (UBS or the Group). On 27 February 2020, the Financial Statements were authorized for issue by the Board of Directors.

Basis of accounting

The Financial Statements have been prepared in accordance with International Financial Reporting Standards (IFRS), as issued by the International Accounting Standards Board (IASB), and are presented in US dollars (USD), which is also the functional currency of: UBS Group AG; UBS AG's Head Office; UBS AG, London Branch; and UBS's US-based operations.

Disclosures provided in the "Risk, treasury and capital management" section of this report that are marked as audited form an integral part of the Financial Statements. These disclosures relate to requirements under IFRS 7, *Financial Instruments: Disclosures,* and IAS 1, *Presentation of Financial Statements,* and are not repeated in this section.

The accounting policies described in this Note have been applied consistently in 2019, 2018 and 2017 unless otherwise stated in Note 1b. Exceptions include IFRS 9, *Financial Instruments* (effective from 1 January 2018), IFRS 15, *Revenue from Contracts with Customers* (effective from 1 January 2018), and IFRS 16, *Leases* (effective from 1 January 2019). Within this Note, policies applied in 2018 and 2017 or only in 2017 that differ from those applied to the financial year ended 31 December 2019 are identified as "Comparative policy."

Critical accounting estimates and judgments

Preparation of these Financial Statements under IFRS requires management to apply judgment and make estimates and assumptions that affect reported amounts of assets, liabilities, income and expenses and disclosure of contingent assets and liabilities, and may involve significant uncertainty at the time they are made. Such estimates and assumptions are based on the best available information. UBS regularly reassesses the estimates and assumptions, which encompass historical experience, expectations of the future and other pertinent factors, to determine their continuing relevance based on current conditions, updating them as necessary. Changes in those estimates and assumptions may have a significant effect on the Financial Statements. Furthermore, actual results may differ significantly from UBS's estimates, which could result in significant losses to the Group, beyond what was anticipated or provided for.

The following areas contain estimation uncertainty or require critical judgment and have a significant effect on the amounts recognized in the Financial Statements:
- fair value measurement (refer to item 3f in this Note and to Note 24);
- expected credit loss measurement (refer to item 3g in this Note and to Note 23);
- assessment of the business model and certain contractual features when classifying financial instruments (refer to item 3b in this Note);
- pension and other post-employment benefit plans (refer to item 7 in this Note and to Note 29);
- income taxes (refer to item 8 in this Note and to Note 8);
- goodwill (refer to item 11 in this Note and to Note 16);
- provisions and contingent liabilities (refer to item 12 in this Note and to Note 21);
- consolidation of structured entities (refer to item 1 in this Note and to Note 31); and
- determination of the functional currency and assessing the earliest date from which it is practical to perform a restatement following a change in presentational currency for the year ended 31 December 2018 (refer to item 13 in this Note).

1) Consolidation

a. Consolidation principles

The Financial Statements comprise the financial statements of the parent company (UBS Group AG) and its subsidiaries, presented as a single economic entity, whereby intercompany transactions and balances have been eliminated. UBS consolidates all entities that it controls, including controlled structured entities (SEs), which is the case when it has: (i) power over the relevant activities of the entity; (ii) exposure to an entity's variable returns; and (iii) the ability to use its power to affect its own returns.

Where an entity is governed by voting rights, control is generally indicated by a direct shareholding of more than one-half of the voting rights.

In other cases, the assessment of control is more complex and requires greater use of judgment. Where UBS has an interest in an entity that exposes it to variability, UBS considers whether it has power over the relevant activities of the entity that allows it to affect the variability of its returns. Consideration is given to all facts and circumstances to determine whether the Group has power over another entity, i.e., the current ability to direct the relevant activities of an entity when decisions about those activities need to be made. Factors such as the purpose and design of the entity, rights held through contractual arrangements (such as call rights, put rights or liquidation rights) as well as potential decision-making rights are all considered in this assessment. Where the Group has power over the relevant activities, a further assessment is made to determine whether, through that power, it has the ability to affect its own returns by assessing whether power is held in a principal or agent capacity. Consideration is given to: (i) the scope of decision-making authority; (ii) rights held by other parties, including removal or other participating rights; and (iii) exposure to variability, including remuneration, relative to total variability of the entity, as well as whether that exposure is different from that of other investors. If, after reviewing these factors, UBS concludes that it can exercise its power to affect its own returns, the entity is consolidated.

Subsidiaries, including SEs, are consolidated from the date when control is obtained and are deconsolidated from the date when control ceases. Control, or the lack thereof, is reassessed if facts and circumstances indicate that there is a change to one or more of the elements required to establish that control is present.

→ **Refer to Note 31 for more information**

b. Structured entities

UBS sponsors the formation of SEs and interacts with non-sponsored SEs for a variety of reasons, including allowing clients to obtain or be exposed to particular risk profiles, to provide funding or to sell or purchase credit risk. An SE is an entity that has been designed so that voting or similar rights are not the dominant factor in deciding who controls the entity. Such entities generally have a narrow and well-defined objective and include those historically referred to as special-purpose entities, as well as some investment funds. UBS assesses whether an entity is an SE by considering the nature of the activities of the entity as well as the substance of voting or similar rights afforded to other parties, including investors and independent boards or directors. UBS considers rights such as the ability to liquidate the entity or remove the decision maker to be similar to voting rights when the holder has the substantive ability to exercise such rights without cause. In the absence of such rights or in cases where the existence of such rights cannot be fully established, the entity is considered to be an SE.

The classes of SEs with which UBS is involved include the following:

- *Securitization structured entities* are established to issue securities to investors that are backed by assets held by the SE and whereby (i) significant credit risk associated with the securitized exposures has been transferred to third parties and (ii) there is more than one risk position or tranche issued by the securitization vehicle in line with the Basel III securitization definition. All securitization entities are classified as SEs.
- *Client investment structured entities* are established predominantly for clients to invest in specific assets or risk exposures through purchasing notes issued by the SE, predominantly on a fixed-term basis. The SE may source assets via a transfer from UBS or through an external market transaction. In some cases, UBS may enter into derivatives with the SE to either align the cash flows of the entity with the investor's intended investment objective or to introduce other desired risk exposures. In certain cases, UBS may have interests in a third-party-sponsored SE to hedge specific risks or participate in asset-backed financing.
- *Investment fund structured entities* have a collective investment objective, are managed by an investment manager and are either passively managed, so that any decision making does not have a substantive effect on variability, or are actively managed, and investors or their governing bodies do not have substantive voting or similar rights. UBS creates and sponsors a large number of funds in which it may have an interest through the receipt of variable management fees and/or a direct investment. In addition, UBS has interests in a number of funds created and sponsored by third parties, including exchange-traded funds and hedge funds, to hedge issued structured products.

When UBS does not consolidate an SE, but has an interest in an SE or has sponsored an SE, disclosures are provided on the nature of these interests and sponsorship activities.

Critical accounting estimates and judgments

Each individual entity is assessed for consolidation in line with the aforementioned consolidation principles. The assessment of control can be complex and requires the use of significant judgment. As the nature and extent of UBS's involvement are unique to each entity, there is no uniform consolidation outcome by entity. Certain entities within a class may be consolidated while others may not. When carrying out the consolidation assessment, judgment is exercised considering all the relevant facts and circumstances, including the nature and activities of the investee, as well as the substance of voting and similar rights.

→ **Refer to Note 31 for more information**

Note 1 Summary of significant accounting policies (continued)

2) Segment reporting

UBS's businesses are organized globally into four business divisions: Global Wealth Management, Personal & Corporate Banking, Asset Management and the Investment Bank. All four business divisions are supported by Corporate Center and qualify as reportable segments for the purpose of segment reporting. Together with Corporate Center, the four business divisions reflect the management structure of the Group. Financial information about the four business divisions and Corporate Center is presented separately in internal management reports to the Group Executive Board, which is considered the "chief operating decision maker" pursuant to IFRS 8, *Operating Segments.*

Prior to 2018, UBS's businesses were organized globally into five business divisions: Wealth Management, Wealth Management Americas, Personal & Corporate Banking, Asset Management and the Investment Bank, all of which were supported by Corporate Center. The five business divisions qualified as reportable segments for the purpose of segment reporting and, together with Corporate Center, reflected the management structure of the Group. Corporate Center – Non-core and Legacy Portfolio was managed and reported as a separate reportable unit within Corporate Center. Financial information about the five business divisions and Corporate Center was presented separately in internal management reports to the Group Executive Board.

Effective from 2018, UBS combined its Wealth Management and Wealth Management Americas business divisions into a single Global Wealth Management business division. Global Wealth Management is managed on an integrated basis, with a single set of performance targets and an integrated operating plan and management structure. Consistent with this, the operating results of Global Wealth Management are presented and assessed on an integrated basis in internal management reports to the Group Executive Board. Consequently, from 2018, Global Wealth Management qualifies as an operating and reportable segment for the purposes of segment reporting and is presented in these Financial Statements alongside Personal & Corporate Banking, Asset Management, the Investment Bank and Corporate Center. Following the change in the composition of UBS's operating segments and corresponding reportable segments, previously reported segment information has been restated. This change had no material effect on the former segments, including recognized goodwill.

→ **Refer to item 11 in this Note and Note 16 for more information**

Effective from 2019, UBS has operationally combined Group Treasury activities with Group Asset and Liability Management (Group ALM) and calls this combined unit Group Treasury. In addition, UBS provides results for total Corporate Center only and does not separately report Corporate Center – Services, Group Treasury and Non-core and Legacy Portfolio due to the substantial reduction in the size and resource consumption of these units. Prior-period information has been restated.

UBS's internal accounting policies, which include management accounting policies and service level agreements, determine the revenues and expenses directly attributable to each reportable segment. Transactions between the reportable segments are carried out at internally agreed rates and are reflected in the operating results of the reportable segments. Revenue-sharing agreements are used to allocate external client revenues to reportable segments where several reportable segments are involved in the value creation chain. Commissions are credited to the reportable segments based on the corresponding client relationship. Total intersegment revenues for the Group are immaterial, as the majority of the revenues are allocated across the segments by means of revenue-sharing agreements. Interest income earned from managing UBS's consolidated equity is allocated to the reportable segments based on average attributed tangible equity and currency composition. Assets and liabilities of the reportable segments are funded through and invested with Corporate Center, and the net interest margin is reflected in the results of each reportable segment.

Segment assets are based on a third-party view and do not include intercompany balances. This view is in line with internal reporting to the Group Executive Board. Certain assets managed centrally by Corporate Center may be allocated to other segments on a basis different to that on which the corresponding costs or revenues are allocated. For example, certain assets are reported on the balance sheet of Corporate Center, notwithstanding that the costs or revenues associated with these assets may be entirely or partly allocated to the operating segments. Similarly, certain assets are reported in the business divisions, whereas the corresponding costs or revenues are entirely or partly allocated to Corporate Center.

Non-current assets disclosed for segment reporting purposes represent assets that are expected to be recovered more than 12 months after the reporting date, excluding financial instruments, deferred tax assets and post-employment benefits.

→ **Refer to Notes 1b and 2 for more information**

3) Financial instruments

a. Recognition

UBS recognizes financial instruments when it becomes a party to the contractual provisions of the instrument. UBS applies settlement date accounting to all regular way purchases and sales of non-derivative financial instruments.

In transactions in which UBS acts as a transferee, to the extent that the transfer of a financial asset does not qualify for derecognition by the transferor, UBS does not recognize the transferred instrument as its asset.

UBS also acts in a fiduciary capacity, which results in the holding or placing of assets on behalf of individuals, trusts, retirement benefit plans and other institutions. Unless these items meet the definition of an asset and the recognition criteria are satisfied, such assets are not recognized on UBS's balance sheet. Consequently, the related income is excluded from these Financial Statements.

Client cash balances associated with derivatives clearing and execution services are not recognized on the balance sheet if, through contractual agreement, regulation or practice, the Group neither obtains benefits from nor controls the client cash balances.

b. Classification, measurement and presentation

All financial instruments are on initial recognition measured at fair value. In the case of financial instruments subsequently measured at amortized cost or fair value through other comprehensive income (FVOCI), the initial fair value is adjusted for directly attributable transaction costs.

Policy applicable from 1 January 2018[1]

On initial recognition, financial assets are classified as measured at amortized cost, FVOCI or fair value through profit or loss (FVTPL).

A debt instrument is measured at amortized cost if it meets both of the following conditions:

- it is held within a business model that has an objective to hold financial assets to collect contractual cash flows; and
- the contractual terms of the financial asset result in cash flows that are solely payments of principal and interest (SPPI) on the principal amount outstanding.

A debt instrument is measured at FVOCI if it meets both of the following conditions:

- it is held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets; and
- the contractual terms of the financial asset result in cash flows that are SPPI on the principal amount outstanding.

All other financial assets are measured at FVTPL and consist of held for trading assets, assets mandatorily measured on a fair value basis and derivatives, except to the extent that they are designated in a hedging relationship, in which case the IAS 39 hedge accounting requirements continue to apply.

Business model assessment

UBS determines the nature of the business model, for example if the objective is to hold the financial asset and collect the contractual cash flows, by considering the way in which the financial assets are managed to achieve a particular business objective as determined by management.

Financial assets that are held for trading or managed on a fair value basis are measured at FVTPL insofar as the associated business model is neither to hold the financial assets to collect contractual cash flows nor to hold to collect contractual cash flows and sell.

The Group originates loans to hold to maturity and to sell or sub-participate to other parties, resulting in a transfer of substantially all the risks and rewards, and derecognition of the loan or portions of it. The Group considers the activities of lending to hold and lending to sell or sub-participate as two separate business models, with financial assets within the former considered to be within a business model that has an objective of holding assets to collect contractual cash flows, and those within the latter included in a trading portfolio. In certain cases, it may not be possible on origination to identify whether loans or portions of loans will be sold or sub-participated and certain loans may be managed on a fair value basis through, for instance, using credit derivatives. These financial assets are mandatorily measured at FVTPL.

[1] The accounting policy in this section applies from 1 January 2018, the effective date of IFRS 9.

Note 1 Summary of significant accounting policies (continued)

Critical accounting estimates and judgments

UBS exercises judgment in determining the appropriate level at which to assess its business models. In general, the assessment is performed at the product level, e.g., retail and commercial mortgages. In other cases, the assessment is carried out at a more granular level, e.g., loan portfolios by region, and, if required, further disaggregation is performed by business strategy. A detailed assessment is carried out considering how the financial assets are evaluated and reported to UBS's key management, the risks that affect the performance of the business and the way that management is compensated. In addition, UBS exercises judgment in determining the effect of sales of financial instruments on the business model assessment. In particular, an assessment is made on whether and the extent to which sales are consistent with the objective of the business model.

Contractual cash flow characteristics

In assessing whether the contractual cash flows are SPPI, the Group considers whether the contractual terms of the financial asset contain a term that could change the timing or amount of contractual cash flows arising over the life of the instrument, which could affect whether the instrument is considered to meet the SPPI criterion.

For example, the Group holds portfolios of private mortgage contracts and corporate loans in Personal & Corporate Banking that commonly contain clauses that provide for two-way compensation if prepayment occurs. The amount of compensation paid by or to UBS reflects the effect of changes in market interest rates. The Group has determined that the inclusion of the change in market interest rates in the compensation amount is reasonable for the early termination of the contract, and therefore results in contractual cash flows that are SPPI.

Critical accounting estimates and judgments

UBS applies judgment when considering whether certain contractual features, such as interest rate reset frequency or non-recourse features, significantly affect future cash flows and whether compensation paid or received on early termination of lending arrangements results in cash flows that are not SPPI. A thorough analysis of all relevant facts and circumstances is assessed before concluding whether contractual cash flows of the financial instrument are consistent with payments representing principal and interest.

After initial recognition, UBS classifies, measures and presents its financial assets and liabilities in accordance with IFRS 9, as described in the table on the following pages.

Note 1 Summary of significant accounting policies (continued)

Classification, measurement and presentation of financial assets from 1 January 2018

<table>
<tr><th colspan="2">Financial assets classification</th><th>Significant items included</th><th>Measurement and presentation</th></tr>
<tr><td colspan="2">Measured at amortized cost</td><td>This classification includes:
– cash and balances at central banks;
– loans and advances to banks;
– cash collateral receivables on securities borrowed;
– receivables on reverse repurchase agreements;
– cash collateral receivables on derivative instruments;
– residential and commercial mortgages;
– corporate loans;
– secured loans, including Lombard loans, and unsecured loans;
– loans to financial advisors; and
– debt securities held as high-quality liquid assets (HQLA).</td><td>Measured at amortized cost using the effective interest rate (EIR) method less allowances for expected credit losses (ECL) (refer to items 3c and 3g in this Note for more information).

The following items are recognized in the income statement:
– interest income, which is accounted for in accordance with item 3c in this Note;
– ECL and reversals; and
– foreign exchange translation gains and losses.

Upfront fees and direct costs relating to loan origination, refinancing or restructuring as well as to loan commitments – when it is probable that UBS will enter into a specific lending relationship – are deferred and amortized over the life of the loan using the EIR method.

When the financial asset at amortized cost is derecognized, the gain or loss is recognized in the income statement.

Amounts arising from exchange-traded derivatives (ETD) and certain over-the-counter (OTC) derivatives cleared through central clearing counterparties that are either considered to be daily settled or in substance net settled on a daily basis (refer to items 3d and 3i in this Note) are presented within Cash collateral receivables on derivative instruments.</td></tr>
<tr><td>Measured at FVOCI</td><td>Debt instruments measured at FVOCI</td><td>This classification primarily includes debt securities and certain asset-backed securities held as HQLA.</td><td>Measured at fair value with unrealized gains and losses reported in Other comprehensive income, net of applicable income taxes, until such investments are derecognized (when sold, collected or otherwise disposed). Upon derecognition, any accumulated balances in Other comprehensive income are reclassified to the income statement and reported within Other income.

The following items are recognized in the income statement:
– interest income, which is accounted for in accordance with item 3c in this Note;
– ECL and reversals; and
– foreign exchange translation gains and losses.

The amounts recognized in the income statement are determined on the same basis as for financial assets measured at amortized cost.</td></tr>
</table>

Note 1 Summary of significant accounting policies (continued)

Classification, measurement and presentation of financial assets from 1 January 2018 (continued)

<table>
<tr><th colspan="2">Financial assets classification</th><th>Significant items included</th><th>Measurement and presentation</th></tr>
<tr><td rowspan="2">Measured at FVTPL</td><td>Held for trading</td><td>Financial assets held for trading include:
– all derivatives with a positive replacement value, except those that are designated and effective hedging instruments; and
– other financial assets acquired principally for the purpose of selling or repurchasing in the near term, or that are part of a portfolio of identified financial instruments that are managed together and for which there is evidence of a recent actual pattern of short-term profit taking. Included in this category are debt instruments (including those in the form of securities, money market paper, and traded corporate and bank loans) and equity instruments.</td><td rowspan="2">Measured at fair value with changes recognized in profit or loss.

Changes in fair value, initial transaction costs, dividends and gains and losses realized on disposal or redemption are recognized in Other net income from financial instruments measured at fair value through profit or loss, except interest income on instruments other than derivatives (refer to item 3c in this Note and Note 1b for more information), interest on derivatives designated as hedging instruments in certain types of hedge accounting relationships and forward points on certain short- and long-duration foreign exchange contracts, which are reported in Net interest income.

Derivative assets (including derivatives that are designated and effective hedging instruments) are generally presented as Derivative financial instruments, except those exchange-traded and OTC-cleared derivatives that are considered to be settled on a daily basis or in substance net settled on a daily basis, which are presented within Cash collateral receivables on derivative instruments.

The presentation of fair value changes on derivatives that are designated and effective hedging instruments depends on the type of hedge relationship (refer to item 3j in this Note for more information).

Financial assets held for trading (other than derivatives) are presented as Financial assets at fair value held for trading.

Other financial assets mandatorily measured at fair value through profit or loss are presented as Financial assets at fair value not held for trading, except for brokerage receivables, which are presented as a separate line item on the Group's balance sheet.</td></tr>
<tr><td>Mandatorily measured at FVTPL – Other</td><td>A financial asset is mandatorily measured at FVTPL if:
– it is not held in a business model whose objective is to hold assets to collect contractual cash flows or to hold them to collect contractual cash flows and sell; and/or
– the contractual terms give rise to cash flows that are not SPPI; and/or
– it is not held for trading.

The following financial assets are mandatorily measured at FVTPL:
– certain structured loans, certain commercial loans, receivables under reverse repurchase and cash collateral on securities borrowing agreements that are managed on a fair value basis;
– loans managed on a fair value basis and hedged with credit derivatives;
– certain debt securities held as HQLA and managed on a fair value basis;
– certain investment fund holdings and assets held to hedge delivery obligations related to cash-settled employee compensation plans – these assets represent holdings in investment funds, whereby the contractual cash flows do not meet the SPPI criterion because the entry and exit price is based on the fair value of the fund's assets;
– brokerage receivables, for which contractual cash flows do not meet the SPPI criterion because the aggregate balance is accounted for as a single unit of account, with interest being calculated on the individual components;
– auction rate securities, for which contractual cash flows do not meet the SPPI criterion because interest may be reset at rates that contain leverage;
– equity instruments; and
– assets held under unit-linked investment contracts.</td></tr>
</table>

Note 1 Summary of significant accounting policies (continued)

Classification, measurement and presentation of financial liabilities

<table>
<tr><th colspan="2">Financial liabilities classification</th><th>Significant items included</th><th>Measurement and presentation</th></tr>
<tr><td colspan="2">Measured at amortized cost</td><td>This classification includes:
– demand and time deposits;
– retail savings / deposits;
– amounts payable under repurchase agreements;
– cash collateral on securities lent;
– non-structured fixed-rate bonds;
– subordinated debt;
– certificates of deposit and covered bonds; and
– cash collateral payables on derivative instruments.</td><td>Measured at amortized cost using the EIR method.

Upfront fees and direct costs relating to the issuance or origination of the liability are deferred and amortized over the life of the liability using the EIR method.

When the financial liability at amortized cost is derecognized, the gain or loss is recognized in the income statement.

Amortized cost liabilities are presented on the balance sheet primarily as Amounts due to banks, Customer deposits, Payables from securities financing transactions and Debt issued measured at amortized cost.

Amounts arising from ETD and certain OTC derivatives cleared through central clearing counterparties that are either considered to be daily settled or in substance net settled on a daily basis (refer to items 3d and 3i in this Note for more information) are presented within Cash collateral payables on derivative instruments.</td></tr>
<tr><td rowspan="2">Measured at fair value through profit or loss</td><td>Held for trading</td><td>Financial liabilities held for trading include:
– all derivatives with a negative replacement value (including certain loan commitments), except those that are designated and effective hedging instruments; and
– obligations to deliver financial instruments, such as debt and equity instruments, that UBS has sold to third parties, but does not own (short positions).</td><td rowspan="2">Measurement of financial liabilities classified at FVTPL follows the same principles as for financial assets classified at FVTPL, except that the amount of change in the fair value of the financial liability that is attributable to changes in UBS's own credit risk is presented in OCI.

Financial liabilities measured at FVTPL are presented as Financial liabilities at fair value held for trading and Other financial liabilities designated at fair value, respectively, except for brokerage payables and debt issued, which are presented separately on the Group's balance sheet.

Derivative liabilities (including derivatives that are designated and effective hedging instruments) are generally presented as Derivative financial instruments, except those exchange-traded and OTC-cleared derivatives that are considered to be settled on a daily basis or in substance net settled on a daily basis, which are presented within Cash collateral payables on derivative instruments.

Bifurcated embedded derivatives are measured at fair value, but are presented on the same balance sheet line as the host contract measured at amortized cost.

Derivatives that are designated and effective hedging instruments are also measured at fair value. The presentation of fair value changes differs depending on the type of hedge relationship (refer to item 3j in this Note for more information).</td></tr>
<tr><td>Designated at FVTPL</td><td>UBS designates at FVTPL the following financial liabilities:
– issued hybrid debt instruments that primarily include equity-linked, credit-linked and rates-linked bonds or notes;
– issued debt instruments managed on a fair value basis;
– certain payables under repurchase agreements and cash collateral on securities lending agreements that are managed in conjunction with associated reverse repurchase agreements and cash collateral on securities borrowed (from 1 January 2018);
– amounts due under unit-linked investment contracts whose cash flows are linked to financial assets measured at FVTPL and eliminate an accounting mismatch (from 1 January 2018); and
– brokerage payables, which arise in conjunction with brokerage receivables and are measured at FVTPL to achieve measurement consistency (from 1 January 2018).</td></tr>
</table>

Note 1 Summary of significant accounting policies (continued)

Comparative policy | *Policy applicable prior to 1 January 2018*

Prior to 1 January 2018, on initial recognition, UBS classified, measured and presented its financial assets and liabilities in accordance with IAS 39, *Financial Instruments: Recognition and Measurement.* Classification, measurement and presentation requirements in respect of financial liabilities have been substantially retained by IFRS 9 and are detailed in the "Classification, measurement and presentation of financial instruments from 1 January 2018" table. The following table sets out details of classification, measurement and presentation of financial assets prior to 1 January 2018.

Classification, measurement and presentation of financial assets prior to 1 January 2018

Financial assets classification	Significant items included	Measurement and presentation[1]
Held for trading	Financial assets held for trading include: – all derivatives with a positive replacement value, except those that are designated and effective hedging instruments; and – any other financial asset acquired principally for the purpose of selling or repurchasing in the near term, or part of a portfolio of identified financial instruments that are managed together and for which there is evidence of a recent actual pattern of short-term profit taking. Included in this category are debt instruments (including those in the form of securities, money market paper and traded corporate and bank loans), equity instruments, and assets held under unit-linked investment contracts.	Measured at fair value with changes recognized in profit or loss. Changes in fair value, initial transaction costs and gains and losses realized on disposal or redemption are recognized in *Other net income from financial instruments measured at fair value through profit or loss* (prior to 1 January 2019: *Other net income from fair value changes on financial instruments*), except interest and dividend income on instruments other than derivatives (refer to item 3c in this Note), interest on derivatives designated as hedging instruments in certain types of hedge accounting relationships and forward points on certain short duration foreign exchange contracts, which are reported in *Net interest income.* Derivative assets are generally presented as *Derivative financial instruments.* Bifurcated embedded derivatives are measured at fair value, but presented on the same balance sheet line as the host contract measured at amortized cost. The presentation of fair value changes on derivatives that are designated and effective hedging instruments differs depending on the type of hedge relationship (refer to item 3j in this Note for more information). Financial assets held for trading (other than derivatives) are presented as *Financial assets at fair value held for trading.* Financial assets designated at fair value through profit or loss are presented as *Financial assets at fair value not held for trading.*
Designated at fair value through profit or loss	A financial asset may be designated at fair value through profit or loss only upon initial recognition and this designation is irrevocable. The fair value option can be applied only if one of the following criteria is met: – the financial instrument is a hybrid instrument that includes a substantive embedded derivative; – the financial instrument is part of a portfolio that is risk managed on a fair value basis and reported to senior management on that basis; or – the application of the fair value option eliminates or significantly reduces an accounting mismatch that would otherwise arise. UBS designated at fair value through profit or loss the following financial assets: – certain structured loans, reverse repurchase and securities borrowing agreements that are managed on a fair value basis; – loans that are hedged predominantly with credit derivatives – these instruments are designated at fair value to eliminate an accounting mismatch; – certain debt securities held as high-quality liquid assets (HQLA) and managed by Corporate Center – Group Treasury on a fair value basis; and – assets held to hedge delivery obligations related to cash-settled employee compensation plans – these assets are designated at fair value in order to eliminate an accounting mismatch that would otherwise arise as a result of the liability being measured on a fair value basis.	

1 Presentation categories in this table reflect retrospective amendments to UBS Group balance sheet presentation carried out upon transition to IFRS 9 to facilitate comparability.

Note 1 Summary of significant accounting policies (continued)

Classification, measurement and presentation of financial assets prior to 1 January 2018 (continued)

Financial assets classification	Significant items included	Measurement and presentation
Loans and receivables (amortized cost)	Non-derivative financial assets with fixed or determinable payments that are not quoted in an active market and are not assets for which the Group may not recover substantially all of its initial net investment for reasons other than credit deterioration. This classification includes: – cash and balances with central banks; – cash collateral receivables on derivative instruments; – residential and commercial mortgages; – secured loans, including reverse repurchase agreements, receivables under stock borrowing and Lombard loans, and unsecured loans; – certain securities held within Corporate Center – Non-core and Legacy Portfolio; and – trade and lease receivables.	Measured at amortized cost using the effective interest rate method less allowances for credit losses (refer to items 3c and 3g in this Note). Upfront fees and direct costs relating to loan origination, refinancing or restructuring as well as to loan commitments are deferred and amortized over the life of the loan using the effective interest rate method. Loans and receivables are presented on the balance sheet primarily as *Cash and balances with central banks, Loans and advances to banks, Loans and advances to customers*, *Receivables from securities financing transactions* and *Cash collateral receivables on derivative instruments.* Amounts arising from exchange-traded derivatives (ETD) and certain over-the-counter (OTC) derivatives cleared through central clearing counterparties that are either considered to be daily settled or qualify for offsetting (refer to items 3d and 3i in this Note) are presented within *Cash collateral receivables on derivative instruments.*
Available for sale	Financial assets classified as available for sale are non-derivative financial assets that are not classified as held for trading, designated at fair value through profit or loss, or loans and receivables. This classification mainly includes debt securities held as HQLA and managed by Corporate Center – Group Treasury, certain asset-backed securities managed by Corporate Center – Group Treasury, investment fund holdings and strategic and commercial equity investments.	Measured at fair value with unrealized gains and losses reported in *Other comprehensive income*, net of applicable income taxes, until such investments are sold, collected or otherwise disposed of, or until any such investment is determined to be impaired (refer to item 3g in this Note). Upon disposal, any accumulated balances in *Other comprehensive income* are reclassified to the income statement and reported within *Other income.* Interest and dividend income are recognized in the income statement in accordance with item 3c in this Note. Refer to item 13 in this Note for information about the treatment of foreign exchange translation gains and losses.
Held to maturity	Non-derivative financial assets with fixed or determinable payments and fixed maturities for which UBS has the positive intention and ability to hold to maturity. This classification mainly includes debt securities held as HQLA and managed by Corporate Center – Group Treasury.	Measured at amortized cost using the effective interest rate method less allowances for credit losses (refer to items 3c and 3g in this Note).

Note 1 Summary of significant accounting policies (continued)

c. Interest income and expense

Interest income and expense are recognized in the income statement applying the effective interest rate (EIR) method. When calculating the EIR for financial instruments (other than credit-impaired financial instruments), UBS estimates future cash flows considering all contractual terms of the instrument, but not expected credit losses.

In determining interest income and expense, the EIR is applied to the gross carrying amount of the financial asset (unless the asset is credit-impaired) or the amortized cost of a financial liability (prior to 1 January 2018: the amortized cost of a financial asset or financial liability). However, when a financial asset becomes credit-impaired after initial recognition, interest income is determined by applying the EIR to the amortized cost of the instrument, which represents the gross carrying amount adjusted for any credit loss allowance. Furthermore, for financial assets that were credit-impaired on initial recognition, interest is determined by applying a credit-adjusted EIR to the amortized cost of the instrument.

Upfront fees, including loan commitment fees where a loan is expected to be issued, and direct costs are included within the initial measurement of a financial instrument measured at amortized cost or FVOCI (prior to 1 January 2018: the financial asset classified as available for sale). Such fees and costs are therefore recognized over the expected life of the instrument as part of its EIR.

Fees related to loan commitments where no loan is expected to be issued, as well as loan syndication fees where UBS does not retain a portion of the syndicated loan or where UBS does retain a portion of the syndicated loan at the same effective yield for comparable risk as other participants, are included in *Net fee and commission income*.

→ **Refer to item 4 in this Note for more information**

Presentation of interest in the income statement

Effective from 1 January 2018, interest income or expense on financial instruments measured at amortized cost and financial assets measured at FVOCI (prior to 1 January 2018: financial assets classified as available for sale) are presented separately within *Interest income from financial instruments measured at amortized cost and fair value through other comprehensive income* and *Interest expense from financial instruments measured at amortized cost*.

UBS also presents interest income and expense on financial instruments (excluding derivatives) measured at FVTPL including forward points on certain short- and long-duration foreign exchange contracts separately in *Interest income* (or *Interest expense*) *from financial instruments measured at fair value through profit or loss*. Furthermore, interest income and expense on derivatives designated as hedging instruments in effective hedge relationships are presented consistently with the interest income and expense of the respective hedged item.

Interest income on financial assets, excluding derivatives, is included in interest income when positive and in *Interest expense* when negative, because negative interest income arising on a financial asset does not meet the definition of revenue. Similarly, interest expense on financial liabilities, excluding derivatives, is included in interest expense, except when interest rates are negative, in which case it is included in interest income.

→ **Refer to item 3j in this Note and Note 3 for more information**

d. Derecognition

Financial assets

UBS derecognizes a financial asset, or a portion of a financial asset, from its balance sheet when the contractual rights to cash flows from the asset have expired, or have been transferred, usually by sale, thus exposing the purchaser to either substantially all the risks and rewards of the asset or a significant part of the risks and rewards combined with a practical ability to sell or pledge the asset.

A financial asset is considered to have been transferred when UBS: (i) transfers the contractual rights to receive the cash flows of the financial asset; or (ii) retains the contractual rights to receive the cash flows of that asset, but assumes a contractual obligation to pay the cash flows to one or more entities.

Where financial assets have been pledged as collateral or in similar arrangements, they are considered to have been transferred if the counterparty has received the contractual right to the cash flows of the pledged assets, as may be evidenced, for example, by the counterparty's right to sell or repledge the assets. Where the counterparty to the pledged financial assets has not received the contractual right to the cash flows, UBS does not consider this to be a transfer for the purposes of derecognition.

In transactions where substantially all of the risks and rewards of ownership of a financial asset are neither retained nor transferred, UBS derecognizes the financial asset if control over the asset is surrendered, and the rights and obligations retained following the transfer are recognized separately as assets and liabilities, respectively. In transfers where control over the financial asset is retained, UBS continues to recognize the asset to the extent of its continuing involvement, determined by the extent to which it is exposed to changes in the value of the transferred asset following the transfer.

Certain over-the-counter (OTC) derivative contracts and most exchange-traded futures and option contracts cleared through central clearing counterparties and exchanges are considered to be settled on a daily basis through the daily margining process, as the payment or receipt of the variation margin represents legal or economic settlement of a derivative contract, which results in derecognition of the associated positive and negative replacement values.

→ **Refer to item 3h of this Note and Note 25 for more information**

Financial liabilities

UBS derecognizes a financial liability from its balance sheet when it is extinguished; i.e., when the obligation specified in the contract is discharged, canceled or expires. When an existing financial liability is exchanged for a new one from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification results in derecognition of the original liability and the recognition of a new liability with any difference in the respective carrying amounts being recognized in the income statement.

e. Securities borrowing / lending and repurchase / reverse repurchase transactions

Securities borrowing / lending and repurchase / reverse repurchase transactions are generally entered into on a collateralized basis. In such transactions, UBS typically borrows or lends equity and debt securities in exchange for securities or cash collateral.

These transactions are treated as collateralized financing transactions where the securities transferred / received are not derecognized or recognized on the balance sheet. Securities transferred / received with the right to resell or repledge are disclosed separately.

In reverse repurchase and securities borrowing agreements, the cash delivered is derecognized and a corresponding receivable, including accrued interest, is recorded in the balance sheet line *Receivables from securities financing transactions,* representing UBS's right to receive the cash. Similarly, in repurchase and securities lending agreements, the cash received is recognized and a corresponding obligation, including accrued interest, is recorded in *Payables from securities financing transactions*. Additionally, the sale of securities that is settled by delivering securities received in reverse repurchase or securities borrowing transactions triggers the recognition of a trading liability.

Repurchase and reverse repurchase transactions with the same counterparty, maturity, currency and central securities depository are generally presented net, subject to meeting the offsetting requirements described in item 3i of this Note.

→ **Refer to Notes 26 and 25 for more information**

f. Fair value of financial instruments

UBS accounts for a significant portion of its assets and liabilities at fair value. Fair value is the price on the measurement date that would be received for the sale of an asset or paid to transfer a liability in an orderly transaction between market participants in the principal market, or in the most advantageous market in the absence of a principal market.

All financial instruments measured at fair value are categorized into one of three fair value hierarchy levels. Level 1 financial instruments are those for which fair values can be derived from quoted prices in active markets. Level 2 financial instruments are those for which fair values must be derived using valuation techniques for which all significant inputs are, or are based on, observable market data. Level 3 financial instruments are those for which fair values can only be derived on the basis of valuation techniques for which significant inputs are not based on observable market data.

Note 1 Summary of significant accounting policies (continued)

Critical accounting estimates and judgments

The use of valuation techniques, modeling assumptions and estimates of unobservable market inputs in the fair valuation of financial instruments requires significant judgment and could affect the amount of gain or loss recorded for a particular position. Valuation techniques that rely more heavily on unobservable inputs inherently require a higher level of judgment than those entirely based on observable inputs.

Valuation techniques, including models, that are used to determine fair values are periodically reviewed and validated by qualified personnel, independent of those who created them. Models are calibrated with the objective of ensuring that outputs reflect observable market data, to the extent possible. Also, UBS prioritizes the use of observable inputs, when available, over unobservable inputs. Judgment is required in selecting appropriate models as well as inputs for which observable data is less readily available.

UBS's governance framework over fair value measurement is described in Note 24b.

The level of subjectivity and the degree of management judgment involved in the development of estimates and the selection of assumptions are more significant for instruments valued using specialized and sophisticated models and where some or all of the parameter inputs are less observable (Level 3 instruments) and may require adjustment to reflect factors that market participants would consider in estimating fair value, such as close-out costs, credit exposure, model-driven valuation uncertainty, funding costs and benefits, trading restrictions and other factors, which are presented in Note 24d. The Group provides a sensitivity analysis of the estimated effects arising from changing significant unobservable inputs in Level 3 financial instruments to reasonably possible alternative assumptions within Note 24g.

→ **Refer to Note 24 for more information**

g. Allowances and provisions for expected credit losses

Policy applicable from 1 January 2018[1]

Expected credit losses (ECL) are recognized for financial assets measured at amortized cost, financial assets measured at FVOCI, fee and lease receivables, financial guarantees and loan commitments. ECL are also recognized on the undrawn portion of revolving revocable credit lines, which include UBS's credit card limits and master credit facilities, which are customary in the Swiss market for corporate and commercial clients. UBS refers to both as "other credit lines," with clients allowed to draw down on-demand balances (with the Swiss master credit facilities also allowing for term products) and which can be terminated by UBS at any time. Though these other credit lines are revocable, UBS is exposed to credit risk because the client has the ability to draw down funds before UBS can take credit risk mitigation actions.

Recognition of expected credit losses

ECL represent the difference between contractual cash flows and those UBS expects to receive, discounted at the EIR. For loan commitments and other credit facilities in scope of ECL, expected cash shortfalls are determined by considering expected future drawdowns.

ECL are recognized on the following basis:

- Maximum 12-month ECL are recognized from initial recognition, reflecting the portion of lifetime cash shortfalls that would result if a default occurs in the 12 months after the reporting date, weighted by the risk of a default occurring. Instruments in this category are referred to as instruments in stage 1. For instruments with a remaining maturity of less than 12 months, ECL are determined for this shorter period.
- Lifetime ECL are recognized if a significant increase in credit risk (SICR) is observed subsequent to the instrument's initial recognition, reflecting lifetime cash shortfalls that would result from all possible default events over the expected life of a financial instrument, weighted by the risk of a default occurring. Instruments in this category are referred to as instruments in stage 2. Where an SICR is no longer observed, the instrument will move back to stage 1.
- Lifetime ECL are always recognized for credit-impaired financial instruments, referred to as instruments in stage 3. The IFRS 9 determination of whether an instrument is credit-impaired is based on the occurrence of one or more loss events, with lifetime ECL generally derived by estimating expected cash flows based on a chosen recovery strategy. Credit-impaired exposures may include positions for which no loss has occurred or no allowance has been recognized, for example, because they are expected to be fully recoverable through the collateral held.
- Changes in lifetime ECL since initial recognition are also recognized for assets that are purchased or originated credit-impaired (POCI). POCI financial assets are initially recognized at fair value, with interest income subsequently being recognized based on a credit-adjusted EIR. POCI financial instruments include those that are newly recognized following a substantial restructuring and remain a separate category until derecognition.

UBS does not apply the low-credit-risk practical expedient that allows a lifetime ECL for lease or fee receivables to be recognized irrespective of whether a significant increase in credit risk has occurred. Instead, UBS has incorporated lease and fee receivables into the standard ECL calculation.

[1] The accounting policy in this section applies from 1 January 2018, the effective date of IFRS 9.

A write-off is made when all or part of a financial asset is deemed uncollectible or forgiven. Write-offs reduce the principal amount of a claim and are charged against previously established allowances for credit losses. Recoveries, in part or in full, of amounts previously written off are generally credited to *Credit loss (expense) / recovery*. Write-offs and partial write-offs represent derecognition / partial derecognition events.

ECL are recognized in profit or loss with a corresponding ECL allowance reported as a decrease in the carrying amount of financial assets measured at amortized cost on the balance sheet. For financial assets measured at fair value through OCI, the carrying amount is not reduced, but an accumulated amount is recognized in OCI. For off-balance sheet financial instruments and other credit lines, provisions for ECL are reported in *Provisions*. ECL are recognized within the income statement in *Credit loss (expense) / recovery.*

Default and credit impairment

UBS applies a single definition of default for classifying assets and determining the probability of default of its obligors for risk modeling purposes. The definition of default is based on quantitative and qualitative criteria. A counterparty is classified as defaulted at the latest when material payments of interest, principal or fees are overdue for more than 90 days, or more than 180 days for certain exposures in relation to loans to private and commercial clients in Personal & Corporate Banking, and to private clients of Global Wealth Management Region Switzerland. UBS does not consider the general 90-day presumption for default recognition appropriate for these latter portfolios based on an analysis of the cure rates, which demonstrated that strict application of the 90-day criterion would not accurately reflect the inherent credit risk. Counterparties are also classified as defaulted when bankruptcy, insolvency proceedings or enforced liquidation have commenced; obligations have been restructured on preferential terms (forbearance); or there is other evidence that payment obligations will not be fully met without recourse to collateral. The latter may be the case even if, to date, all contractual payments have been made when due. If a counterparty is defaulted, generally all claims against the counterparty are treated as defaulted.

An instrument is classified as credit-impaired if the counterparty is defaulted, and/or the instrument is identified as POCI. An instrument is POCI if it has been purchased at a deep discount to its carrying amount following a risk event of the issuer or originated with a defaulted counterparty. Once a financial asset is classified as defaulted / credit-impaired (except when it is POCI), it is reported as a stage 3 instrument and remains as such unless all past due amounts have been rectified, additional payments have been made on time, the position is not classified as credit-restructured, and there is general evidence of credit recovery. A three-month probation period is applied before a transfer back to stages 1 or 2 can be triggered. However, most instruments remain in stage 3 for a longer period.

Measurement of expected credit losses

IFRS 9 ECL reflect an unbiased, probability-weighted estimate based on either loss expectations resulting from default events over a maximum 12-month period from the reporting date or over the remaining life of a financial instrument. The method used to calculate individual probability-weighted unbiased ECL is based on a combination of the following principal factors: probability of default (PD), loss given default (LGD) and exposure at default (EAD). Parameters are generally determined on an individual financial asset level. Based on the materiality of the portfolio, for credit card exposures and personal account overdrafts in Switzerland, and certain loans to financial advisors of Global Wealth Management Region Americas, a portfolio approach is applied that derives an average PD and LGD for the entire portfolio. PDs and LGDs used in the ECL calculation are point in time (PIT)-based for key portfolios and consider both current conditions and expected cyclical changes. For each instrument or group of instruments, parameter time series are generated consisting of the instruments' PD, LGD and EAD profiles considering the respective period of exposure to credit risk. For material portfolios, PD and LGD are determined for four different scenarios, whereas EAD projections are treated as scenario independent.

For the purpose of determining the ECL-relevant parameters, UBS leverages its Pillar 1 internal ratings-based (IRB) models that are also used in determining expected loss (EL) and risk-weighted assets under the Basel III framework and Pillar 2 stress loss models. Adjustments have been made to these models and new IFRS 9-related models have been developed that consider the complexity, structure and risk profile of relevant portfolios and take account of the fact that PDs and LGDs used in the ECL calculation are PIT-based, as opposed to the corresponding Basel III through-the-cycle (TTC) parameters. All models that are relevant for measuring expected credit losses have been subject to the existing model validation and oversight processes. The assignment of internal counterparty rating grades and the determination of default probabilities for the purposes of Basel III are not affected by the IFRS 9 ECL calculation.

Probability of default (PD): The PD represents the likelihood of a default over a specified time period. A 12-month PD represents the likelihood of default determined for the next 12 months and a lifetime PD represents the probability of default over the remaining lifetime of the instrument. The lifetime PD calculation is based on a series of 12-month PIT PDs that are derived from TTC PDs and scenario forecasts. This modeling is region-, industry- and client segment-specific and considers both macroeconomic scenario-dependencies and client-idiosyncratic information. To derive the cumulative lifetime PD per scenario, the series of 12-month PIT PDs are transformed into marginal PIT PDs, taking any assumed default events from prior periods into account.

Note 1 Summary of significant accounting policies (continued)

Loss given default (LGD): The LGD represents an estimate of the loss at the time of a potential default occurring during the life of a financial instrument. The determination of the LGD takes into account expected future cash flows from collateral and other credit enhancements, or expected payouts from bankruptcy proceedings for unsecured claims and, where applicable, time to realization of collateral and the seniority of claims. The LGD is commonly expressed as a percentage of the EAD.

Exposure at default (EAD): The EAD represents an estimate of the exposure to credit risk at the time of a potential default occurring during the life of a financial instrument. It represents the cash flows outstanding at the time of default, considering expected repayments, interest payments and accruals, discounted at the EIR. Future drawdowns on facilities are considered through a credit conversion factor (CCF) that is reflective of historical drawdown and default patterns and the characteristics of the respective portfolios. ECL-specific CCFs have been modeled to capture client segment- and product-specific patterns after removing Basel III standard-specific elements, i.e., conservatism and focus on a 12-month period prior to default.

Estimation of expected credit losses

Number of scenarios and estimation of scenario weights

The determination of the probability-weighted ECL requires evaluating a range of diverse and relevant future economic conditions, especially with a view to modeling the non-linear effect of assumptions about macroeconomic factors on the estimate.

To accommodate this requirement, UBS uses four different economic scenarios in the ECL calculation: an upside, a baseline, a mild downside and a severe downside scenario. Each scenario is represented by a specific scenario narrative, which is relevant considering the exposure of key portfolios to economic risks, and for which a set of consistent macroeconomic variables is determined. Those variables range from above-trend economic growth to severe recession. The baseline scenario is aligned to the economic and market assumptions used for UBS business planning purposes. An econometric model is used to provide an input into the scenario weight assessment process giving a first indication of the probability that the GDP forecast used for each scenario would materialize, if historically observed deviations of GDP growth from trend growth were representative. As such historical analyses of GDP development do not include an assessment of the underlying economic or political causes, management positions the model output into the context of current conditions and future expectations and applies material judgment in determining the final scenario weights. The determined weights constitute the probabilities that the respective set of macroeconomic conditions will occur and not that the chosen particular narratives with the related macroeconomic variables will materialize.

Macroeconomic and other factors

The range of macroeconomic, market and other factors that is modeled as part of the scenario determination is wide, and historical information is used to support the identification of the key factors. As the forecast horizon increases, the availability of information decreases and judgment increases. For cycle-sensitive PD and LGD determination purposes, UBS projects the relevant economic factors for a period of three years before reverting, over a specified period, to a cycle-neutral PD and LGD for longer-term projections.

Factors relevant for the ECL calculation vary by type of exposure and are determined during the credit cycle index model development process in close alignment with expert judgment. Certain variables may only be relevant for specific types of exposures, such as house price indices for mortgage loans, while other variables have key relevance in the ECL calculation for all exposures. Regional and client segment characteristics are generally taken into account, with specific focus on Switzerland and the US considering UBS's key ECL-relevant portfolios.

For UBS, the following forward-looking macroeconomic variables represent the most relevant factors in the ECL calculation:

– GDP growth rates, given their significant effect on borrowers' performance;
– house price indices, given their significant effect on mortgage collateral valuations;
– unemployment rates, given their significant effect on private clients' ability to meet contractual obligations;
– interest rates, given their significant effect on the counterparties' abilities to service debt;
– consumer price indices, given their overall relevance for companies' performance, private clients' purchasing power and economic stability; and
– equity indices, given that they are an important factor in our corporate rating tools.

The forward-looking macroeconomic assumptions used in the ECL calculation are developed by UBS economists, risk methodology personnel and credit risk officers. Assumptions and scenarios are validated and approved through a Scenario Committee and an Operating Committee, which also aim to ensure a consistent use of forward-looking information throughout UBS, including in the business planning process. ECL inputs are tested and reassessed for appropriateness at least once a quarter and appropriate adjustments are made when needed.

Scenario generation, review process and governance

All aspects of the scenario selection, including the specific narratives, their weight for the ECL estimation, and the key macroeconomic and other factors, are subject to a formal governance and approval process.

A team of economists, who are part of Group Risk Control, provide the basic analysis taking into account information obtained through established risk identification and assessment processes, which involve a broad range of experts, in particular, risk specialists and other in-house economists. Material risks with a high likelihood of materializing are then factored into the scenario selection process. Once narratives have been developed, key macroeconomic factors that are consistent with the severity of the case and interdependencies are determined.

The scenarios, their weight and the key macroeconomic and other factors are subject to a critical assessment by members of the Scenario Committee, where senior credit officers from the divisions and representatives from Group Risk Control are represented. Important aspects for the review are the extent to which the selected scenarios reflect the vulnerabilities of the relevant portfolios; whether their transformation into PIT PD and LGD values is in line with credit risk officers' expectations; and whether there may be pockets of exposures, where particular credit risk concerns may not be capable of being addressed systematically and require an expert-based overlay for stage allocation and ECL allowance. This also ensures a consistent use of forward-looking information throughout UBS and an alignment with the business planning process.

The Operating Committee is jointly chaired by the Group Controller and Chief Accounting Officer, and the Risk Chief Operating Officer and Group Chief Risk Model Officer, and is comprised of the divisional Chief Risk Officers and divisional Chief Financial Officers as well as senior Corporate Center Risk and Finance representatives. They review the proposals submitted by the Scenario Committee and approve the final selection of scenarios and factors and any expert-based overlays as they may be required to cover temporary issues, either related to specific risk elements in a portfolio, or due to identified technical deficiencies pending remediation (model updates, data quality, etc.).

The Group Model Governance Board, as the highest authority under UBS's model governance framework, ratifies the decisions by the Operating Committee.

ECL measurement period

The period for which lifetime ECL are determined is based on the maximum contractual period that UBS is exposed to credit risk, taking into account contractual extension, termination and prepayment options. For irrevocable loan commitments and financial guarantee contracts, the measurement period represents the maximum contractual period for which UBS has an obligation to extend credit.

Additionally, some financial instruments include both an on-demand loan and a revocable undrawn commitment, where the contractual cancelation right does not limit UBS's exposure to credit risk to the contractual notice period, as the client has the ability to draw down funds before UBS can take risk-mitigating actions. In such cases, UBS is required to estimate the period over which it is exposed to credit risk. This applies to UBS's credit card limits, which do not have a defined contractual maturity date, are callable on demand and where the drawn and undrawn components are managed as one unit. The exposure arising from UBS's credit card limits is not significant and is managed at a portfolio level, with credit actions triggered when balances are past due. An ECL measurement period of seven years is applied for credit card limits, capped at 12 months for stage 1 balances, as a proxy for the period that UBS is exposed to credit risk.

Customary master credit agreements in the Swiss corporate market also include on-demand loans and revocable undrawn commitments. For smaller commercial facilities, a risk-based monitoring (RbM) approach is in place that highlights negative trends as risk events, at an individual facility level, based on a combination of continuously updated risk indicators. The risk events trigger additional credit reviews by a risk officer, allowing for informed credit decisions to be taken. Larger corporate facilities are not subject to RbM, but are reviewed at least annually through a formal credit review. UBS has assessed these credit risk management practices and considers both the RbM approach and formal credit review as substantive credit reviews resulting in a re-origination of the facility. Following this, a 12-month measurement period from the reporting date is used for both types of facilities as an appropriate proxy of the period over which UBS is exposed to credit risk, with 12 months also used as a look-back period for assessing SICR, always from the respective reporting date.

Significant increase in credit risk

Financial instruments subject to ECL are monitored on an ongoing basis. To determine whether the recognition of a maximum 12-month ECL continues to be appropriate, an assessment is made as to whether an SICR has occurred since initial recognition of the financial instrument. The assessment criteria include both quantitative and qualitative factors. UBS does not make use of the expedient that no particular SICR test is required for instruments that have low credit risk at reporting date.

Primarily, UBS assesses changes in an instrument's risk of default on a quantitative basis by comparing the annualized forward-looking and scenario-weighted lifetime PD of an instrument determined at two different dates:

– at the reporting date; and
– at inception of the instrument.

In both cases, the respective PDs are determined for the residual lifetime of the instrument, i.e., the period between the reporting date and maturity. If, based on UBS's quantitative modeling, an increase exceeds a set threshold, an SICR is deemed to have occurred and the instrument is transferred to stage 2 with lifetime ECL being recognized.

Note 1 Summary of significant accounting policies (continued)

The threshold applied varies depending on the original credit quality of the borrower. For instruments with lower default probabilities at inception due to good credit quality of the counterparty, the SICR threshold is set at a higher level than for instruments with higher default probabilities at inception. This implies that for instruments with initially lower default probabilities, a relatively higher deterioration in credit quality is needed to trigger an SICR than for those instruments with originally higher PDs. The SICR assessment based on PD changes is made at an individual financial asset level. A high-level overview of the SICR trigger, which is a multiple of the annualized remaining lifetime PIT PD expressed in rating downgrades that entail the same multiple of PD values, together with the corresponding ratings at origination of an instrument, is provided in the "SICR thresholds" table below. This simplified view is aligned to internal ratings as disclosed in "Internal UBS rating scale and mapping of external ratings" presented in "Credit risk" in the "Risk management and control" section of this report. The actual SICR thresholds applied are defined on a more granular level interpolating between the values shown in the table below.

SICR thresholds

Internal rating at origination of the instrument	Rating downgrades / SICR trigger
0–3	3
4–8	2
9–13	1

→ **Refer to the "Risk management and control" section of this report for more details about the bank's internal grading system**

Irrespective of the SICR assessment based on default probabilities, credit risk is generally deemed to have significantly increased for an instrument if the contractual payments are more than 30 days past due. For certain less material portfolios, specifically the Swiss credit card portfolio and the loans to financial advisors of Global Wealth Management Region Americas, the 30-day past due criterion is used as the primary indicator of an SICR. Where instruments are transferred to stage 2 due to the 30-day past due criterion, a minimum period of six months is applied before a transfer back to stage 1 can be triggered. For instruments in Personal & Corporate Banking and Global Wealth Management Region Switzerland that are between 90 and 180 days past due but have not been reclassified to stage 3, a one-year period is applied before a transfer back to stage 1 can be triggered.

Additionally, based on individual counterparty-specific indicators, external market indicators of credit risk or general economic conditions, counterparties may be moved to a watch list, which is used as a secondary qualitative indicator for an SICR and hence for a transfer to stage 2. Exception management is further applied, allowing for individual and collective adjustments on exposures sharing the same credit risk characteristics to take account of specific situations that are not otherwise fully reflected. Instruments for which an SICR since initial recognition is determined based on criteria other than changed default probabilities or watch list items remain in stage 2 for at least six months post resolution of the stage 2 trigger event.

In general, the overall SICR determination process does not apply to Lombard loans, securities financing transactions and certain other asset-based lending transactions, because of the risk management practices adopted, including daily monitoring processes with strict margining requirements that often require the delivery of collateral within a number of days. If margin calls are not satisfied, a position is closed out and classified as a stage 3 position. In exceptional cases, an individual adjustment and a transfer into stage 2 may be made to take account of specific facts.

Credit risk officers are responsible for ensuring that the stage allocation of instruments reflects the identification of an SICR, which for accounting purposes is in some aspects different from internal credit risk management processes for loans with increased credit risk, mainly because ECL accounting requirements are instrument-specific, such that a borrower can have multiple exposures allocated to different stages, and that maturing loans in stage 2 will migrate to stage 1 upon renewal irrespective of the actual credit risk at that time. Under a risk-based approach, a holistic counterparty credit assessment and the absolute level of risk at any given date will determine what risk mitigating actions may be warranted.

→ **Refer to the "Risk management and control" section of this report for more information**

Critical accounting estimates and judgments

The calculation of ECL requires management to apply significant judgment and make estimates and assumptions that involve significant uncertainty at the time they are made. Changes to these estimates and assumptions can result in significant changes to the timing and amount of ECL to be recognized.

Determination of a significant increase in credit risk
IFRS 9 does not include a definition of what constitutes an SICR. UBS's assessment of whether an SICR has occurred since initial recognition is based on reasonable and supportable forward-looking information, both qualitative and quantitative, and includes significant management judgment. More stringent criteria could significantly increase the number of instruments migrating to stage 2. An IFRS 9 Operating Committee has been established to review and challenge the SICR approach and any potential changes and determinations made in the quarter.

Scenarios, scenario weights and macroeconomic factors
ECL reflect an unbiased and probability-weighted amount, which UBS determines by evaluating a range of possible outcomes. Management selects forward-looking scenarios and judges the suitability of respective weights to be applied. Each of the scenarios is based on management's assumptions around future economic conditions in the form of macroeconomic, market and other factors. Changes in the scenarios and weights, the corresponding set of macroeconomic variables and the assumptions made around those variables for the forecast horizon would have a significant effect on the ECL. An IFRS 9 Scenario Committee, in addition to the Operating Committee, has been established to derive, review and challenge the selection and weights.

ECL measurement period
Lifetime ECL are generally determined based upon the contractual maturity of the transaction, which significantly affects ECL. The ECL calculation is therefore sensitive to any extension of contractual maturities triggered by business decisions, consumer behaviors and an increased number of stage 2 positions. In addition, for credit card limits and Swiss callable master credit facilities, judgment is required as UBS must determine the period over which it is exposed to credit risk. A seven-year period has been applied for credit card limits, capped at 12 months for stage 1 positions, and a 12-month period has been applied for master credit facilities.

Modeling and management adjustments
A number of complex models have been developed or modified to calculate ECL, with additional management adjustments required. Internal counterparty rating changes, new or revised models and changes to data may significantly affect ECL. The models are governed by UBS's model validation controls, which aim to ensure independent verification, and are approved by the Group Model Governance Board (the GMGB). The management adjustments are approved by the IFRS 9 Operating Committee and endorsed by the GMGB.

The Group provides a sensitivity analysis of the effect of scenario selection, scenario weights and SICR trigger points on ECL measurement within Note 23g.

Comparative policy | *Policy applicable prior to 1 January 2018*
A claim is impaired and an allowance or provision for credit losses is recognized when objective evidence demonstrates that a loss event has occurred after the initial recognition and that the loss event has an effect on the future cash flows that can be reliably estimated (incurred loss approach). UBS considers a claim to be impaired if it will be unable to collect all amounts due thereon based on the original contractual terms as a result of credit deterioration of the issuer or counterparty. A claim can be a loan or receivable measured at amortized cost, or a commitment, such as a letter of credit, a guarantee or a similar instrument.

An allowance for credit losses is reported as a decrease in the carrying amount of a financial asset. For an off-balance sheet item, such as a commitment, a provision for credit losses is reported in *Provisions*. Changes to allowances and provisions for credit losses are recognized in *Credit loss (expense) / recovery*.

Critical accounting estimates and judgments

Allowances and provisions for credit losses are evaluated at both a counterparty-specific level and collectively. Judgment is used in making assumptions about the timing and amount of impairment losses.

Counterparty-specific allowances and provisions

Loans are evaluated individually for impairment if objective evidence indicates that a loan may be impaired. Individual credit exposures are evaluated on the basis of the borrower's overall financial condition, resources and payment record, the prospects of support from contractual guarantors and, where applicable, the realizable value of any collateral. The impairment loss for a loan is the excess of the carrying amount of the financial asset over the estimated recoverable amount. The estimated recoverable amount is the present value, calculated using the loan's original effective interest rate, of expected future cash flows, including amounts that may result from restructuring or the liquidation of collateral. If a loan has a variable interest rate, the discount rate for calculating the recoverable amount is the current effective interest rate. Upon impairment, interest income is accrued by applying the original effective interest rate to the impaired carrying amount of the loan.

Note 1 Summary of significant accounting policies (continued)

All impaired loans are reviewed and analyzed at least annually. Any subsequent changes to the amounts and timing of the expected future cash flows compared with prior estimates result in a change in the allowance for credit losses and are charged or credited to *Credit loss (expense) / recovery*. An allowance for impairment is reversed only when the credit quality has improved to such an extent that there is reasonable assurance of timely collection of principal and interest in accordance with the original contractual terms of the instrument, or the equivalent value thereof. A write-off is made when all or part of a financial asset is deemed uncollectible or forgiven. Write-offs reduce the principal amount of a claim and are charged against previously established allowances for credit losses. Recoveries, in part or in full, of amounts previously written off are credited to *Credit loss (expense) / recovery.*

Collective allowances and provisions

Collective allowances and provisions are calculated for portfolios with similar credit risk characteristics, taking into account historical loss experience and current conditions. The methodology and assumptions used are reviewed regularly to reduce any differences between estimated and actual loss experience. For all of its portfolios, UBS also assesses whether there have been any unforeseen developments that might result in impairments that are not immediately observable at a counterparty level. To determine whether an event-driven collective allowance for credit losses is required, UBS considers global economic drivers to assess the most vulnerable countries and industries. As the allowance cannot be allocated to individual loans, the loans are not considered to be impaired and interest is accrued on each loan according to its contractual terms. If objective evidence becomes available that indicates that an individual financial asset is impaired, it is removed from the group of financial assets assessed for impairment on a collective basis and is assessed separately as counterparty-specific.

Impairment of financial assets classified as available for sale

At each balance sheet date, UBS assesses whether indicators of impairment are present. Available-for-sale debt instruments are impaired when there is objective evidence, using the same criteria described on the previous page, that, as a result of one or more events that occurred after the initial recognition of the asset, the estimated future cash flows have decreased.

Objective evidence that there has been an impairment of an available-for-sale equity instrument is a significant or prolonged decline in the fair value of the asset. UBS uses a rebuttable presumption that such instruments are impaired where there has been a decline in fair value of more than 20% below its original cost or fair value has been below original cost for more than six months.

To the extent a financial asset classified as available for sale is determined to be impaired, the related cumulative net unrealized loss previously recognized in *Other comprehensive income* is reclassified to the income statement within *Other income*. For equity instruments, any further loss is recognized directly in the income statement, whereas for debt instruments, any further loss is recognized in the income statement only if there is additional objective evidence of impairment. After the recognition of an impairment on a financial asset classified as available for sale, increases in the fair value of equity instruments are reported in *Other comprehensive income.* For debt instruments, such increases in the fair value, up to amortized cost in the transaction currency, are recognized in *Other income,* provided that the fair value increase is related to an event occurring after the impairment loss was recorded. Increases in excess of that amount are reported in *Other comprehensive income*. ▲

h. Restructured and modified financial assets

When payment default is expected or where default has already occurred, UBS may grant concessions to borrowers in financial difficulties that it would otherwise not consider in the normal course of its business, such as preferential interest rates, extension of maturity, modifying the schedule of repayments, debt / equity swap, subordination, etc. When a concession or forbearance measure is granted, each case is considered individually and the exposure is generally classified as being in default. Forbearance classification will remain until the loan is collected or written off, non-preferential conditions are granted that supersede the preferential conditions or until the counterparty has recovered and the preferential conditions no longer exceed our risk tolerance.

Contractual adjustments when there is no evidence of imminent payment default, or where changes to terms and conditions are within UBS's usual risk tolerance, are not considered to be in forbearance. Modifications represent contractual amendments that result in an alteration of future contractual cash flows and that can occur within UBS's normal risk tolerance or as part of a credit restructuring where a counterparty is in financial difficulties.

A restructuring or modification of a financial asset could lead to a substantial change in the terms and conditions, resulting in the original financial asset being derecognized and a new financial asset being recognized. Where the modification does not result in a derecognition, any difference between the modified contractual cash flows discounted at the original EIR and the existing gross carrying amount of a financial asset is recognized in profit or loss as a modification gain or loss. Furthermore, the subsequent SICR assessment is made by comparing the risk of default at the reporting date based on the modified contractual terms of the financial asset with the risk of default at initial recognition based on the original, unmodified contractual terms of the financial asset.

i. Offsetting

UBS nets financial assets and liabilities on its balance sheet if (i) it has the unconditional and legally enforceable right to set off the recognized amounts, both in the normal course of business and in the event of default, bankruptcy or insolvency of UBS and all of the counterparties, and (ii) intends either to settle on a net basis or to realize the asset and settle the liability simultaneously. Netted positions include, for example, certain derivatives and repurchase and reverse repurchase transactions with various counterparties, exchanges and clearing houses.

In assessing whether UBS intends to either settle on a net basis, or to realize the asset and settle the liability simultaneously, emphasis is placed on the effectiveness of operational settlement mechanics in eliminating substantially all credit and liquidity exposure between the counterparties. This condition precludes offsetting on the balance sheet for substantial amounts of UBS's financial assets and liabilities, even though they may be subject to enforceable netting arrangements. For OTC derivative contracts, balance sheet offsetting is generally only permitted in circumstances in which a market settlement mechanism exists via an exchange or central clearing counterparty that effectively accomplishes net settlement through a daily exchange of collateral via a cash margining process. For repurchase arrangements and securities financing transactions, balance sheet offsetting may be permitted only to the extent that the settlement mechanism eliminates, or results in insignificant, credit and liquidity risk, and processes the receivables and payables in a single settlement process or cycle.

→ **Refer to Note 25 for more information**

j. Hedge accounting

The Group uses derivative and non-derivative instruments to manage exposures to interest rate and foreign currency risks, including exposures arising from forecast transactions. The Group continues to apply hedge accounting requirements as set out in IAS 39. Qualifying instruments may be designated as hedging instruments in: (i) hedges of the change in fair value of recognized assets or liabilities (fair value hedges); (ii) hedges of the variability in future cash flows attributable to a recognized asset or liability or highly probable forecast transactions (cash flow hedges); or (iii) hedges of a net investment in a foreign operation (net investment hedges).

At the time a financial instrument is designated in a hedge relationship, UBS formally documents the relationship between the hedging instrument(s) and hedged item(s), including the risk management objectives and strategy in undertaking the hedge transaction and the methods that will be used to assess the effectiveness of the hedging relationship. Accordingly, UBS assesses, both at the inception of the hedge and on an ongoing basis, whether the hedging instruments, primarily derivatives, have been "highly effective" in offsetting changes in the fair value or cash flows associated with the designated risk of the hedged items.

A hedge is considered highly effective if the following criteria are met: (i) at inception of the hedge and throughout its life, the hedge is expected to be highly effective in achieving offsetting changes in fair value or cash flows attributable to the hedged risk; and (ii) actual results of the hedge are within a range of 80–125%. In the case of hedging forecast transactions, the transaction must have a high probability of occurring and must present an exposure to variations in cash flows that could ultimately affect the reported net profit or loss. UBS discontinues hedge accounting when: (i) it determines that a hedging instrument is not, or has ceased to be, highly effective as a hedge; (ii) the derivative expires or is sold, terminated or exercised; (iii) the hedged item matures, is sold or repaid; or (iv) forecast transactions are no longer deemed highly probable. The Group may also discontinue hedge accounting voluntarily.

Hedge ineffectiveness represents the amount by which the changes in the fair value of the hedging instrument differ from changes in the fair value of the hedged item attributable to the hedged risk, or the amount by which changes in the present value of future cash flows of the hedging instrument exceed changes in the present value of expected cash flows of the hedged item. Such ineffectiveness is recorded in current-period earnings in *Other net income from financial instruments measured at fair value through profit or loss* (prior to 1 January 2018: *Net trading income*).

Interest from derivatives designated as hedging instruments in effective fair value hedge relationships is presented within *Interest income from loans and deposits* and *Interest expense on debt issued*, within *Net interest income*. Interest from derivatives designated as hedging instruments in effective cash flow hedge relationships that is reclassified from other comprehensive income when the hedged transaction affects profit or loss is presented within *Interest income from derivative instruments designated as cash flow hedges*.

→ **Refer to Note 3 for more information**

Note 1 Summary of significant accounting policies (continued)

Fair value hedges
For qualifying fair value hedges, the change in the fair value of the hedging instrument is recognized in the income statement along with the change in the fair value of the hedged item that is attributable to the hedged risk. In fair value hedges of interest rate risk, the fair value change of the hedged item attributable to the hedged risk is reflected as an adjustment to the carrying amount of the hedged item. If the hedge accounting relationship is terminated for reasons other than the derecognition of the hedged item, the adjustment to the carrying amount is amortized to the income statement over the remaining term to maturity of the hedged item using the effective interest rate method. For a portfolio hedge of interest rate risk, the equivalent change in fair value is reflected within *Other financial assets measured at amortized cost* or *Other financial liabilities measured at amortized cost*. If the portfolio hedge relationship is terminated for reasons other than the derecognition of the hedged item, the amount included in *Other financial assets measured at amortized cost* or *Other financial liabilities measured at amortized cost* is amortized to the income statement over the remaining term to maturity of the hedged items using the straight-line method.

Cash flow hedges
Fair value gains or losses associated with the effective portion of derivatives designated as cash flow hedges for cash flow repricing risk are recognized initially in *Other comprehensive income* within *Equity*. When the hedged forecast cash flows affect profit or loss, the associated gains or losses on the hedging derivatives are reclassified from *Equity* to the income statement.

If a cash flow hedge of forecast transactions is no longer considered effective, or if the hedge relationship is terminated, the cumulative gains or losses on the hedging derivatives previously reported in *Equity* remain there until the committed or forecast transactions occur and affect profit or loss. If the forecast transactions are no longer expected to occur, the deferred gains or losses are reclassified immediately to the income statement.

Hedges of net investments in foreign operations
Hedges of net investments in foreign operations are accounted for similarly to cash flow hedges. Gains or losses on the hedging instrument relating to the effective portion of the hedge are recognized directly in *Equity* (and presented in the statement of changes in equity and statement of comprehensive income under *Foreign currency translation*), while any gains or losses relating to the ineffective and/or undesignated portion (for example, the interest element of a forward contract) are recognized in the income statement. Upon disposal or partial disposal of the foreign operation, the cumulative value of any such gains or losses recognized in *Equity* associated with the entity is reclassified to *Other income*.

Economic hedges that do not qualify for hedge accounting
Derivative instruments that are transacted as economic hedges but do not qualify for hedge accounting are treated in the same way as derivative instruments used for trading purposes; i.e., realized and unrealized gains and losses are recognized in *Other net income from financial instruments measured at fair value through profit or loss* (prior to 1 January 2018: *Net trading income*), except for the forward points on certain short- and long-duration foreign exchange contracts, which are reported in *Net interest income*.

→ **Refer to Note 11 for more information**

k. Embedded derivatives in financial liabilities
Derivatives may be embedded in other financial instruments (host contracts). For example, they could be represented by the conversion feature embedded in a convertible bond. Such hybrid instruments arise predominantly from the issuance of certain structured debt instruments. An embedded derivative in a financial liability is generally required to be separated from the host contract and accounted for as a standalone derivative instrument at fair value through profit or loss if: (i) the host contract is not measured at fair value with changes in fair value reported in the income statement; (ii) the economic characteristics and risks of the embedded derivative are not closely related to the economic characteristics and risks of the host contract; and (iii) the terms of the embedded derivative would meet the definition of a standalone derivative, were they contained in a separate contract.

Typically, UBS applies the fair value option to hybrid instruments (refer to item 3b in this Note for more information), in which case bifurcation of an embedded derivative component is not required.

l. Financial liabilities

Debt issued measured at amortized cost includes contingent capital instruments that contain contractual provisions under which the principal amounts would be written down upon either a specified CET1 ratio breach or a determination by FINMA that a viability event has occurred. Such contractual provisions are not derivatives as the underlying is deemed to be a non-financial variable specific to a party to the contract. Where there is a legal bail-in mechanism for write-down or conversion into equity (as is the case, for instance, with senior unsecured debt issued by the Group that is subject to write-down or conversion under resolution authority granted to FINMA under Swiss law), such a mechanism does not form part of the contractual terms and, therefore, does not affect the amortized cost accounting treatment applied to these instruments. If the debt were to be written down or converted into equity in a future period, the financial liability would be partially or fully derecognized, with the difference between the carrying amount of the debt written down or converted into equity and the fair value of any equity shares issued recognized in the income statement.

In cases where, as part of the Group's risk management activity, fair value hedge accounting is applied to fixed-rate debt instruments measured at amortized cost, their carrying amount is adjusted for changes in fair value related to the hedged exposure. Refer to item 3j for more information about hedge accounting.

Debt issued and subsequently repurchased in relation to market-making or other activities is treated as redeemed. A gain or loss on redemption (depending on whether the repurchase price of the bond is lower or higher than its carrying amount) is recorded in *Other income*. A subsequent sale of own bonds in the market is treated as a reissuance of debt.

UBS uses the fair value option to designate certain issued debt instruments as financial liabilities designated at fair value through profit or loss, on the basis that such financial instruments include embedded derivatives and/or are managed on a fair value basis (refer to item 3b in this Note for more information).

m. Own credit

Changes in the fair value of financial liabilities designated at fair value through profit or loss related to own credit are recognized in *Other comprehensive income* directly within *Retained earnings* and will not be reclassified to the income statement in future periods.

n. Loan commitments

Policy applicable from 1 January 2018[1]

Loan commitments are arrangements under which clients can borrow stipulated amounts under defined terms and conditions.

Loan commitments that can be canceled at any time by UBS at its discretion are neither recognized on the balance sheet nor included in off-balance sheet disclosures.

Loan commitments that cannot be canceled by UBS once the commitments have been communicated to the beneficiary or that are revocable only because of automatic cancelation upon deterioration in a borrower's creditworthiness are considered irrevocable and are classified as: (i) derivative loan commitments measured at fair value through profit or loss; (ii) loan commitments designated at fair value through profit or loss; or (iii) other loan commitments.

The Group recognizes ECL on non-cancelable other loan commitments and those that can be canceled at any time if UBS is exposed to credit risk (refer to item 3g in this Note). Corresponding ECL are presented within *Provisions* on the Group's balance sheet. ECL relating to these other loan commitments are recorded in the income statement in *Credit loss (expense) / recovery*.

When a client draws on a commitment, the resulting loan is presented within *Financial assets at fair value held for trading,* or within *Financial assets at fair value not held for trading* when the associated loan commitments are measured at fair value through profit or loss, and within *Loans and advances to customers* when the associated loan commitment is not measured at fair value through profit or loss.

Comparative policy | *Policy applicable prior to 1 January 2018*

When a client draws on a commitment, the resulting loan is classified as a: (i) trading asset, consistent with the associated derivative loan commitment; (ii) financial asset designated at fair value through profit or loss, consistent with the loan commitment designated at fair value through profit or loss; or as a (iii) loan when the associated loan commitment is accounted for as other loan commitments which are not measured at fair value through profit or loss. Consistent with item 3g above, claims under other loan commitments are impaired and an allowance or provision for credit losses is recognized when objective evidence demonstrates that a loss event has occurred after the initial recognition and that the loss event has an effect on the future cash flows that can be reliably estimated (incurred loss approach).▲

o. Financial guarantee contracts

Policy applicable from 1 January 2018[1]

Financial guarantee contracts are contracts that require the issuer to make specified payments to reimburse the holder for an incurred loss because a specified debtor fails to make payments when due in accordance with the terms of a specified debt instrument. UBS issues such financial guarantees to banks, financial institutions and other parties on behalf of clients to secure loans, overdrafts and other banking facilities.

1 The accounting policy in this section applies from 1 January 2018, the effective date of IFRS 9.

Note 1 Summary of significant accounting policies (continued)

Certain issued financial guarantees that are managed on a fair value basis are designated at fair value through profit or loss. Financial guarantees that are not managed on a fair value basis are initially recognized in the financial statements at fair value and are subsequently measured at the higher of:
- the amount of ECL (refer to item 3g in this Note); and
- the amount initially recognized less the cumulative amount of income recognized as of the reporting date.

ECL resulting from guarantees is recorded in the income statement in *Credit loss (expense) / recovery*.

Comparative policy | *Policy applicable prior to 1 January 2018*
Financial guarantees that are not managed on a fair value basis are initially recognized in the financial statements at fair value and are subsequently measured at the higher of the amount initially recognized less cumulative amortization and, to the extent a payment under the guarantee has become probable, the present value of the expected payment. Any change in the liability relating to probable expected payments resulting from guarantees is recorded in the income statement in *Credit loss (expense) / recovery*. ▲

p. Other net income from financial instruments measured at fair value through profit or loss
The line item *Other net income from financial instruments measured at fair value through profit or loss* includes fair value gains and losses on financial instruments at fair value through profit or loss other than interest income and expense on non-derivatives (refer to item 3c in this Note). In addition, effective 1 January 2019, the line item includes dividends (prior to 1 January 2019, dividends were included within *Net interest income*), intermediation income arising from certain client-driven Global Wealth Management and Personal & Corporate Banking financial transactions, foreign currency translation effects and income and expenses from exposures to precious metals.

4) Fee and commission income and expenses

Policy applicable from 1 January 2018[1]
UBS earns fee income from a diverse range of services it provides to its clients. Fee income can be divided into two broad categories: fees earned from services that are provided over a certain period of time, such as asset or portfolio management, custody services and certain advisory services; and fees earned from point-in-time services, such as underwriting fees and brokerage fees (e.g., securities and derivative execution and clearing).

→ **Refer to Note 4 for more information, including the disaggregation of revenues**

Performance obligations satisfied over time
Fees earned from services that are provided over a certain period of time are recognized on a pro rata basis over the service period, provided the fees are not contingent on successfully meeting specified performance criteria that are beyond the control of UBS (see measurement below).

Costs to fulfill services over time are recorded in the income statement immediately, because such services are considered to be a series of services that are substantially the same from day to day and have the same pattern of transfer. The costs to fulfill neither generate nor enhance the resources of UBS that will be used to satisfy future performance obligations and cannot be distinguished between those that relate to satisfied and unsatisfied performance obligations. Therefore, these costs do not qualify to be recognized as an asset. Where costs incurred relate to contracts that include variable consideration that is constrained by factors beyond UBS's control (e.g., successful mergers and acquisitions (M&A) activity), or where UBS has a history of not recovering such costs on similar transactions, such costs are expensed immediately as incurred.

Performance obligations satisfied at a point in time
Fees earned from providing transaction-type services are recognized when the service has been completed, provided such fees are not subject to refund or another contingency beyond the control of UBS.

Incremental costs to fulfill services provided at a point in time are typically incurred and recorded at the same time as the performance obligation is satisfied and revenue is earned, and are therefore not recognized as an asset, e.g., brokerage. Where recovery of costs to fulfill relates to an uncompleted point-in-time service for which the satisfaction of the performance obligation in the contract is dependent upon factors beyond the control of UBS, such as underwriting a successful securities issuance, or where UBS has a history of not recovering such costs through reimbursement on similar transactions, the costs are expensed immediately as incurred.

1 The accounting policy in this section applies from 1 January 2018, the effective date of IFRS 15.

Measurement

Fee and commission income is measured based on consideration specified in a legally enforceable contract with a customer, excluding amounts such as taxes collected on behalf of third parties. Consideration can include both fixed and variable amounts. Variable consideration includes refunds, discounts, performance bonuses and other amounts that are contingent on the occurrence or non-occurrence of a future event. Variable consideration that is contingent on an uncertain event can only be recognized to the extent that it is highly probable that a significant reversal in the amount of cumulative revenue for a contract will not occur. This is referred to as the variable consideration constraint. UBS does not consider the highly probable criterion to be met where the contingency on which income is dependent is beyond the control of UBS. In such circumstances, UBS only recognizes revenue when the contingency has been resolved or an uncertain event has occurred. Examples include asset management performance-linked fees, which are only payable if the returns of a fund exceed a benchmark and are only recognized after the performance period has elapsed. Similarly, M&A advisory fees that are dependent on a successful client transaction are not recognized until the transaction on which the fees are dependent has been executed. Asset management fees (excluding performance-based fees) received on a periodic basis, typically quarterly, that are determined based on a fixed percentage of net asset value that has not been established at the reporting date, are estimated and accrued ratably over the period to the next invoice date, except during periods in which market volatility indicates there is a risk of significant reversal. Research revenues earned by the Investment Bank under commission-sharing or research payment account agreements are not recognized until the client has provided a definitive allocation of amounts between research providers, as prior to this UBS generally does not have an enforceable right to a specified amount of consideration.

Consideration received is allocated to the separately identifiable performance obligations in a contract. Owing to the nature of UBS's business, contracts that include multiple performance obligations are typically those that are considered to include a series of similar performance obligations fulfilled over time with the same pattern of transfer to the client, e.g., asset management. As a consequence, UBS is not required to apply significant judgment in allocating the consideration received across the various performance obligations. UBS has taken the practical expedient to not disclose information about the allocation of the transaction price to remaining performance obligations in contracts. This is because contracts are typically less than one year in duration. Where contracts have a longer duration, they are either subject to the variable consideration constraint, with fees calculated on future net asset value, which cannot be included within the transaction price for the contract, or result in revenue being recognized ratably using the output method corresponding directly to the value of the services completed to date and to which UBS would be entitled to invoice upon termination of the contract, e.g., loan commitments.

Presentation of fee and commission income and expense

Fee and commission income and expense are presented gross on the face of the income statement when UBS is considered to be principal in the contractual relationship with its customer and any suppliers used to fulfill such contracts. This occurs where UBS has control over such services and its relationship with suppliers prior to provision of the service to the client. UBS only considers itself to be an agent in relation to services provided by third parties, e.g., third-party execution costs for exchange-traded derivatives and fees payable to third-party research providers, where the client controls both the choice of supplier and the scope of the services to be provided. Furthermore, in order to be considered an agent UBS should generally not take responsibility for the quality of the service, transform or integrate the services into a UBS product. In such circumstances, UBS is essentially acting as a payment agent for its client. When UBS is acting as an agent, any costs incurred are directly offset against the associated income.

Presentation of expenses in the income statement

UBS presents expenses primarily in line with their nature in the income statement, differentiating between expenses that are directly attributable to the satisfaction of specific performance obligations associated with the generation of revenues, which are presented within *Total operating income*, and those that are related to personnel, general and administrative expenses, which are presented within *Total operating expenses*.

Contract assets, contract liabilities and capitalized expenses

UBS has applied the practical expedient of allowing for costs incurred to obtain a contract to be expensed as incurred where the amortization period for any asset recognized would be less than 12 months.

Where UBS provides services to clients, consideration is due immediately upon satisfaction of a point-in-time service or at the end of a prespecified period for a service performed over time; e.g., certain asset management fees are collected monthly or quarterly, through deduction from a client account, deduction from fund assets or through separate invoicing. Where receivables are recorded, they are presented within *Other financial assets measured at amortized cost*.

Contract liabilities relate to prepayments received from customers where UBS is yet to satisfy its performance obligation.

Contract assets are recorded when an entity's right to consideration in exchange for services transferred is conditional on something other than the passage of time, e.g., the entity's future performance.

UBS has not recognized any material contract assets, contract liabilities or capitalized expenses during the period and has therefore not provided a contract balances reconciliation.

Note 1 Summary of significant accounting policies (continued)

Comparative policy | *Policy applicable prior to 1 January 2018*
Fees earned from services that are provided over a certain period of time are recognized ratably over the service period, with the exception of performance-linked fees or fee components with specific performance criteria. Such fees are recognized when, as of the reporting date, the performance benchmark has been met and when collectibility is reasonably assured.

Fees earned from providing transaction-type services are recognized when the service has been completed and the fee is fixed or determinable, i.e., not subject to refund or adjustment.

Fee income generated from providing a service that does not result in the recognition of a financial instrument is presented within *Net fee and commission income*. Fees generated from the acquisition, issue or disposal of a financial instrument are presented in the income statement in line with the balance sheet classification of that financial instrument. ▲

→ **Refer to Note 4 for more information**

5) Cash and cash equivalents

For the purpose of the statement of cash flows, cash and cash equivalents comprise balances with an original maturity of three months or less, including cash, money market paper and balances at central and other banks.

6) Share-based and other deferred compensation plans

Share-based compensation plans

UBS has established share-based compensation plans that are settled in UBS's equity instruments or an amount that is based on the value of such instruments. These awards are generally subject to vesting conditions that require employees to complete a specified period of service and, for performance shares, to satisfy specified performance conditions. Share-based compensation expense is recognized, on a per-tranche basis, over the service period based on an estimate of the number of instruments expected to vest and is adjusted to reflect actual outcomes of service or performance conditions. Where the vesting period is shortened, for example in the case of employees affected by restructuring programs or mutually agreed termination provisions, the expense is recognized on an accelerated basis to the termination date.

Where no future service is required, such as for employees who are eligible for retirement or who have met certain age and length-of-service criteria, the services are presumed to have been received and the share-based compensation expense is recognized immediately on, or prior to, the date of grant. Such awards may remain forfeitable. For equity-settled awards, forfeiture events resulting from a breach of a non-vesting condition (i.e., one that does not relate to a service or performance condition) do not result in an adjustment to the share-based compensation expense.

Share-based compensation expense is measured by reference to the fair value of the equity instruments on the date of grant, taking into account the terms and conditions inherent in the award, including, where relevant, dividend rights, transfer restrictions in effect beyond the vesting date, market conditions, and non-vesting conditions. For equity-settled awards, the fair value is not remeasured unless the terms of the award are modified such that there is an incremental increase in value. No adjustments are made for modification that results in a decrease in value. Any increase in fair value resulting from a modification is recognized as compensation expense, either over the remaining service period or, for vested awards, immediately. For cash-settled awards, fair value is re-measured at each reporting date such that the cumulative expense recognized equals the cash distributed.

→ **Refer to Note 30 for more information**

Other compensation plans

UBS has established deferred compensation plans that are settled in cash or financial instruments other than UBS equity, the amount of which may be fixed or may vary based on the achievement of specified performance conditions or the value of specified underlying assets. Compensation expense is recognized over the period that the employee provides services to become entitled to the award. Where the service period is shortened, for example in the case of employees affected by restructuring programs or mutually agreed termination provisions, recognition of expense is accelerated to the termination date. Where no future service is required, such as for employees who are eligible for retirement or who have met certain age and length-of-service criteria, the services are presumed to have been received and compensation expense is recognized immediately on, or prior to, the date of grant. The amount recognized is based on the present value of the amount expected to be paid under the plan and is remeasured at each reporting date, so that the cumulative expense recognized equals the cash or the fair value of respective financial instruments distributed.

→ **Refer to Note 30 for more information**

7) Pension and other post-employment benefit plans

UBS sponsors various post-employment benefit plans for its employees worldwide, which include defined benefit and defined contribution pension plans, and other post-employment benefits, such as medical and life insurance benefits that are payable after the completion of employment.

→ **Refer to Note 29 for more information**

Defined benefit plans

UBS offers defined benefit plans, such as pension and medical insurance benefit plans. Defined benefit plans specify an amount of benefit that an employee will receive, which usually depends on one or more factors, such as age, years of service and compensation. The defined benefit liability recognized in the balance sheet is the present value of the defined benefit obligation less the fair value of the plan assets at the balance sheet date, with changes resulting from remeasurements recorded immediately in *Other comprehensive income*. If the fair value of the plan assets is higher than the present value of the defined benefit obligation, the recognition of the resulting net defined benefit asset is limited to the present value of economic benefits available in the form of refunds from the plan or reductions in future contributions to the plan. UBS applies the projected unit credit method to determine the present value of its defined benefit obligations, the related current service cost and, where applicable, past service cost. The projected unit credit method sees each period of service as giving rise to an additional unit of benefit entitlement and measures each unit separately to build up the final obligation. These amounts, which take into account the specific features of each plan, including risk sharing between employee and employer, are calculated periodically by independent qualified actuaries.

Critical accounting estimates and judgments

The net defined benefit liability or asset at the balance sheet date and the related personnel expense depend on the expected future benefits to be provided, determined using a number of economic and demographic assumptions. A range of assumptions could be applied, and different assumptions could significantly alter the defined benefit liability or asset and pension expense recognized. The most significant assumptions include life expectancy, the discount rate, expected salary increases, pension increases and, in addition for the Swiss plan and one of the US defined benefit pension plans, interest credits on retirement savings account balances. Life expectancy is determined by reference to published mortality tables. The discount rate is determined by reference to the rates of return on high-quality fixed-income investments of appropriate currency and term at the measurement date. The assumption for salary increases reflects the long-term expectations for salary growth and takes into account historical salary development by age groups, expected inflation and expected supply and demand in the labor market. A sensitivity analysis for reasonable possible movements in each significant assumption for UBS's post-employment obligations is provided within Note 29.

Defined contribution plans

A defined contribution plan is a pension plan under which UBS pays fixed contributions into a separate entity from which post-employment and other benefits are paid. UBS has no legal or constructive obligation to pay further contributions if the plan does not hold sufficient assets to pay employees the benefits relating to employee service in the current and prior periods. UBS's contributions are expensed when the employees have rendered services in exchange for such contributions. This is generally in the year of contribution. Prepaid contributions are recognized as an asset to the extent that a cash refund or a reduction in future payments is available.

8) Income taxes

UBS is subject to the income tax laws of Switzerland and those of the non-Swiss jurisdictions in which UBS has business operations.

The Group's provision for income taxes is composed of current and deferred taxes. Current income taxes represent taxes to be paid or refunded for the current period or previous periods.

Deferred taxes are recognized for temporary differences between the carrying amounts and tax bases of assets and liabilities that will result in taxable or deductible amounts in future periods and are measured using the applicable tax rates and laws that have been enacted or substantively enacted by the end of the reporting period and which will be in effect when such differences are expected to reverse.

Deferred tax assets arise from a variety of sources, the most significant being: (i) tax losses that can be carried forward to be used against profits in future years; and (ii) temporary differences that will result in deductions against profits in future years. Deferred tax assets are recognized only to the extent that it is probable that sufficient taxable profits will be available against which these differences can be used. When an entity or tax group has a history of recent losses, deferred tax assets are only recognized to the extent there are sufficient taxable temporary differences or there is convincing other evidence that sufficient taxable profit will be available against which the unused tax losses can be utilized.

Deferred tax liabilities are recognized for temporary differences between the carrying amounts of assets and liabilities in the balance sheet that reflect the expectation that certain items will give rise to taxable income in future periods.

Deferred and current tax assets and liabilities are offset when: (i) they arise in the same tax reporting group; (ii) they relate to the same tax authority; (iii) the legal right to offset exists; and (iv) they are intended to be settled net or realized simultaneously.

Note 1 Summary of significant accounting policies (continued)

Current and deferred taxes are recognized as income tax benefit or expense in the income statement, except for current and deferred taxes recognized: (i) upon the acquisition of a subsidiary (for which such amounts would affect the amount of goodwill arising from the acquisition); (ii) for gains and losses on the sale of treasury shares (for which the tax effects are recognized directly in *Equity*); (iii) for unrealized gains or losses on financial instruments that are classified at FVOCI (prior to 1 January 2018: financial assets classified as available for sale); (iv) for changes in fair value of derivative instruments designated as cash flow hedges; (v) for remeasurements of defined benefit plans; or (vi) for certain foreign currency translations of foreign operations. Amounts relating to points (iii) through (vi) are recognized in *Other comprehensive income* within *Equity*.

UBS reflects the potential effect of uncertain tax positions for which acceptance by the relevant tax authority is not considered probable by adjusting current or deferred taxes, as applicable, using either the most likely amount or expected value methods, depending on which method is deemed a better predictor of the basis on which and extent to which the uncertainty will be resolved.

Critical accounting estimates and judgments

Tax laws are complex, and judgment and interpretations about the application of such laws are required when accounting for income taxes. UBS considers the performance of its businesses and the accuracy of historical forecasts and other factors in evaluating the recoverability of its deferred tax assets, including the remaining tax loss carry-forward period, and its assessment of expected future taxable profits in the forecast period used for recognizing deferred tax assets. Estimating future profitability is inherently subjective and is particularly sensitive to future economic, market and other conditions, which are difficult to predict.

The level of deferred tax asset recognition is influenced by management's assessment of UBS's future profitability based on relevant business plan forecasts. Existing assessments are reviewed and, if necessary, revised to reflect changed circumstances. This review is conducted annually, generally in the fourth quarter of each year, but adjustments may be made at other times, if required. In a situation where recent losses have been incurred, convincing other evidence that there will be sufficient future profitability is required.

If profit forecast assumptions in future periods deviate from the current outlook, the value of UBS's deferred tax assets may be affected. Any increase or decrease in the carrying amount of deferred tax assets would primarily be recognized through the income statement but would not affect cash flows.

In addition, judgment is required to assess the expected value of uncertain tax positions that are incorporated into the estimate of income and deferred tax and the assessment of the related probabilities, including in relation to the interpretation of tax laws, the resolution of any income tax-related appeals or litigation and the assessment of the related probabilities.

→ **Refer to Note 8 for more information**

9) Investments in associates

Interests in entities where UBS has significant influence over the financial and operating policies of the entity, but does not have control, are classified as investments in associates and accounted for under the equity method of accounting. Typically, UBS has significant influence when it holds or has the ability to hold between 20% and 50% of a company's voting rights. Investments in associates are initially recognized at cost, and the carrying amount is increased or decreased after the date of acquisition to recognize the Group's share of the investee's comprehensive income and any impairment losses.

The net investment in an associate is impaired if there is objective evidence of a loss event and the carrying amount of the investment in the associate exceeds its recoverable amount.

→ **Refer to Note 31 for more information**

10) Property, equipment and software

Property, equipment and software includes own-used properties, leasehold improvements, information technology hardware, externally purchased and internally generated software, as well as communication and other similar equipment. Property, equipment and software is measured at cost less accumulated depreciation and impairment losses and is reviewed at each reporting date for indication for impairment. Software development costs are capitalized only when the costs can be measured reliably and it is probable that future economic benefits will arise. Depreciation of property, equipment and software begins when they are available for use (i.e., when they are in the location and condition necessary for them to be capable of operating in the manner intended by management). Depreciation is calculated on a straight-line basis over an asset's estimated useful life. The estimated useful economic lives of UBS's property, equipment and software are:

- properties, excluding land: ≤ 67 years
- IT hardware and communication equipment: ≤ 7 years
- other machines and equipment: ≤ 10 years
- software: ≤ 10 years
- leased properties and leasehold improvements: the shorter of the lease term or the economic life of asset (typically ≤ 20 years).

Property, equipment and software are generally tested for impairment at the appropriate cash-generating unit (CGU) level, alongside goodwill and intangible assets as described in item 11 of this Note. An impairment charge is however only recognized for such assets if both the asset's fair value less costs of disposal and value in use (if determinable) is below its carrying amount. The fair value of such an asset, other than property which has a market price, is generally determined using a replacement cost approach that reflects the amount that would be currently required by a market participant to replace the service capacity of the asset. If such assets are no longer used, they are tested individually for impairment.

→ **Refer to Note 15 for more information**

11) Goodwill and intangible assets

Goodwill represents the excess of the cost of an acquisition over the fair value of the Group's share of net identifiable assets of the acquired entity at the date of the acquisition. Goodwill is not amortized, but at the end of each reporting period or when indicators of impairment exist, UBS assesses whether there is any indication that goodwill is impaired. If such indicators exist, UBS is required to test the goodwill for impairment. Irrespective of whether there is any indication of impairment, UBS tests goodwill for impairment annually.

Following the integration in 2018 of the Wealth Management and Wealth Management Americas business divisions into the single reportable segment Global Wealth Management, UBS continued to separately monitor the goodwill previously allocated to the two former business divisions. As a consequence, for the purpose of goodwill impairment testing, the former Wealth Management and Wealth Management Americas business divisions are considered to be two separate cash-generating units referred to in Note 16 as Global Wealth Management Americas and Global Wealth Management ex Americas. The remaining goodwill balances are tested at the level of Asset Management and the Investment Bank, with each segment considered a separate cash-generating unit.

The impairment test is performed for each cash-generating unit to which goodwill is allocated by comparing the recoverable amount, based on its value-in-use, to the carrying amount of the respective cash-generating unit. An impairment charge is recognized in the income statement if the carrying amount exceeds the recoverable amount.

If the estimated earnings and other assumptions in future periods deviate from the current outlook, the value of UBS's goodwill may become impaired in the future, giving rise to losses in the income statement. Recognition of any impairment of goodwill would reduce net profit and equity, but would not affect cash flows.

Intangible assets are comprised of separately identifiable intangible items arising from business combinations and certain purchased trademarks and similar items. Intangible assets are recognized at cost. The cost of an intangible asset acquired in a business combination is its fair value at the date of acquisition. Intangible assets with a finite useful life are amortized using the straight-line method over their estimated useful life, generally not exceeding 20 years. In rare cases, intangible assets can have an indefinite useful life, in which case they are not amortized. At each reporting date, intangible assets are reviewed for indications of impairment. If such indications exist, the intangible assets are analyzed to assess whether their carrying amount is fully recoverable. An impairment loss is recognized if the carrying amount exceeds the recoverable amount.

Critical accounting estimates and judgments

UBS's methodology for goodwill impairment testing is based on a model that is most sensitive to the following key assumptions: (i) forecasts of earnings available to shareholders in years one to three; (ii) changes in the discount rates; and (iii) changes in the long-term growth rate.

The key assumptions are linked to external market information, where applicable. Earnings available to shareholders are estimated on the basis of forecast results, which are part of the business plan approved by the BoD. The discount rates are determined by applying a capital asset pricing model-based approach, as well as considering quantitative and qualitative inputs from both internal and external analysts, the view of management and regional differences in risk-free rates, at the level of individual cash-generating units. Long-term growth rates are determined in a consistent manner based on nominal or real GDP growth rate forecasts, considering different regions worldwide as incorporated in the business plan approved by the BoD.

The key assumptions used to determine the recoverable amounts of each cash-generating unit are tested for sensitivity by applying reasonably possible changes to those assumptions. Refer to Note 16 for details about how the reasonably possible changes may affect the results of UBS's model for goodwill impairment testing.

→ **Refer to Notes 2 and 16 for more information**

12) Provisions and contingent liabilities

Provisions are liabilities of uncertain timing or amount, and are generally recognized in accordance with IAS 37, *Provisions, Contingent Liabilities and Contingent Assets*, when: (i) UBS has a present obligation as a result of a past event; (ii) it is probable that an outflow of resources will be required to settle the obligation; and (iii) a reliable estimate of the amount of the obligation can be made.

The Group recognizes IAS 37 provisions for litigation, regulatory and similar matters when, in the opinion of management after seeking legal advice, the requirements for recognition have been met. A provision may also be established for claims that have not yet been asserted against the Group, but are nevertheless expected to be, based on the Group's experience with similar asserted claims.

Note 1 Summary of significant accounting policies (continued)

IAS 37 provisions are measured considering the best estimate of the consideration required to settle the present obligation at the balance sheet date. Such estimates are based on all available information and are revised over time as more information becomes available. If the effect of the time value of money is material, provisions are discounted and measured at the present value of the expenditure expected to settle or discharge the obligation, using a rate that reflects the current market assessments of the time value of money and the risks specific to the obligation.

Provisions that are similar in nature are aggregated to form a class, while the remaining provisions, including those of less significant amounts, are disclosed under *Other provisions*. Provisions are presented separately on the balance sheet and, when they are no longer considered uncertain in timing or amount, are reclassified to their respective liability lines depending on their nature.

When all conditions required to recognize a provision are not met, a contingent liability is disclosed, unless the likelihood of an outflow of resources is remote. Contingent liabilities are also disclosed for possible obligations that arise from past events whose existence will be confirmed only by uncertain future events not wholly within the control of UBS. Such disclosures are not made if it is not practicable to do so.

The majority of UBS's provisions relate to litigation, regulatory and similar matters, restructuring, and employee benefits. Restructuring provisions are generally recognized as a consequence of management agreeing to materially change the scope of the business or the manner in which it is conducted, including changes in the management structure. Provisions for employee benefits relate mainly to service anniversaries and sabbatical leave, and are recognized in accordance with measurement principles set out in item 7 of this Note. In addition, UBS presents expected credit loss allowances within *Provisions* if they relate to a loan commitment, financial guarantee contract or a revolving revocable credit line.

Critical accounting estimates and judgments

Recognition of provisions often involves significant judgment in assessing the existence of an obligation that results from past events and in estimating the probability, timing and amount of any outflows of resources. This is particularly the case for litigation, regulatory and similar matters, which, due to their nature, are subject to many uncertainties making their outcome difficult to predict. Such matters may involve unique fact patterns or novel legal theories, proceedings that have not yet been initiated or are at early stages of adjudication, or as to which alleged damages have not been quantified by the claimants. Determining whether an obligation exists as a result of a past event and estimating the probability, timing and amount of any potential outflows is based on a variety of assumptions, variables, and known and unknown uncertainties.

The amount of any provision recognized is sensitive to the assumptions used and there could be a wide range of possible outcomes for any particular matter.

Statistical or other quantitative analytical tools are generally of limited use in determining whether to establish or determine the amount of provisions in the case of litigation, regulatory or similar matters. Furthermore, information currently available to management may be incomplete or inaccurate, increasing the risk of erroneous assumptions with regard to the future development of such matters. Management regularly reviews all the available information regarding such matters, including legal advice, which is a significant consideration, to assess whether the recognition criteria for provisions have been satisfied and to determine the timing and amount of any potential outflows.

→ **Refer to Note 21 for more information**

13) Foreign currency translation

Transactions denominated in a foreign currency are translated into the functional currency of the reporting entity at the spot exchange rate on the date of the transaction. At the balance sheet date, all monetary assets, including those at FVOCI (prior to 1 January 2018: monetary financial assets classified as available for sale), and monetary liabilities denominated in foreign currency are translated into the functional currency using the closing exchange rate. Translation differences (which for monetary financial assets at FVOCI are determined as if they were financial assets measured at amortized cost) are reported in *Other net income from financial instruments measured at fair value through profit or loss* (prior to 1 January 2018: *Net trading income*).

Non-monetary items measured at historical cost are translated at the exchange rate on the date of the transaction. Prior to 1 January 2018, foreign currency translation differences on non-monetary financial assets classified as available for sale were recorded directly in *Equity* until the asset was derecognized.

Upon consolidation, assets and liabilities of foreign operations (which from 1 October 2018 also include UBS's Switzerland-based operations with Swiss franc functional currency) are translated into US dollars, UBS's presentation currency, at the closing exchange rate on the balance sheet date, and income and expense items and other comprehensive income are translated at the average rate for the period. The resulting foreign currency translation differences attributable to shareholders are recognized in *Foreign currency translation* within *Equity,* which forms part of *Total equity attributable to shareholders*, whereas the foreign currency translation differences attributable to non-controlling interests are included within *Equity attributable to non-controlling interests*. Share capital issued, share premium and treasury shares held are translated at the historic average rate, whereby the difference between the historic average rate and the spot rate realized upon repayment of share capital or disposal of treasury shares is reported as *Share premium.* Cumulative amounts recognized in OCI in respect of cash flow hedges and financial assets measured at FVOCI (prior to 1 January 2018: financial assets classified as available for sale) are translated at the closing exchange rate as of the balance sheet dates, with any translation effects adjusted through *Retained earnings*.

When a foreign operation is disposed or partially disposed of and UBS no longer controls the foreign operation, the cumulative amount of foreign currency translation differences within *Total equity attributable to shareholders* and *Equity attributable to non-controlling interests* related to that foreign operation is reclassified to the income statement as part of the gain or loss on disposal. Similarly, if an investment in an associate becomes an investment in a subsidiary, the cumulative amount of foreign currency translation differences is reclassified to profit or loss. When UBS disposes of a portion of its interest in a subsidiary that includes a foreign operation but retains control, the related portion of the cumulative currency translation balance is reclassified to *Equity attributable to non-controlling interests*.

→ **Refer to Note 37 for more information**

Critical accounting estimates and judgments

The determination of an entity's functional currency and the trigger for a change requires management to apply significant judgment and assumptions. IAS 21, *The Effects of Changes in Foreign Exchange Rates*, requires management to consider the underlying transactions, events and conditions that are relevant to the entity when determining the appropriate functional currency and any changes. UBS's conclusion, in the fourth quarter of 2018, that the functional currency of UBS Group AG, UBS AG's Head Office in Switzerland and UBS AG, London Branch had changed from the Swiss franc to the US dollar was based on a detailed assessment of the primary currencies affecting and influencing the economics of each entity, considering revenue-generating income streams, expenses, funding and risk management activities.

In addition, determining the earliest date from which it is practicable to perform a restatement following a voluntary change in presentational currency also requires management to apply significant judgment and make estimates and assumptions. UBS's decision in 2018 to change the presentation currency of UBS Group AG's consolidated financial statements from the Swiss franc to the US dollar was made in line with IAS 8, *Accounting Policies, Changes in Accounting Estimates and Errors*, by assessing the earliest date from which it was practicable to perform a restatement, taking into consideration whether sufficiently reliable data was available for earlier periods and whether any assumptions on management intent or significant estimates of amounts were required. UBS carried out a detailed and extensive data analysis before concluding that 1 January 2004 represented the earliest date available, with the consequence that foreign currency translation gains and losses prior to 2004 were disregarded, and foreign currency translation effects were first calculated from 1 January 2004 onward.

14) Equity, treasury shares and contracts on UBS Group AG shares

Non-controlling interests

Net profit is split into *Net profit attributable to shareholders* and *Net profit attributable to non-controlling interests* (including net profit attributable to preferred noteholders, if any). Similarly, *Equity* is split into *Equity attributable to shareholders* and *Equity attributable to non-controlling interests* (including equity attributable to preferred noteholders, if any).

Non-controlling interests subject to option arrangements, e.g., written puts, are generally deemed to be acquired by UBS. As a result, the amounts allocated to non-controlling interests are reduced accordingly and a liability equivalent to each option's exercise price is recognized, with any difference between these two amounts recorded in *Share premium.*

UBS Group AG shares held (treasury shares)

UBS Group AG shares held by the Group, including those purchased as part of market-making activities, are presented in *Equity* as *Treasury shares* at their acquisition cost and are deducted from *Equity* until they are canceled or reissued. The difference between the proceeds from sales of treasury shares and their weighted average cost (net of tax, if any) is reported as *Share premium*.

Note 1 Summary of significant accounting policies (continued)

Net cash settlement contracts

Contracts on UBS Group AG shares that require net cash settlement, or provide the counterparty or UBS with a settlement option that includes a choice of settling net in cash, are classified as held for trading derivatives, with changes in fair value reported in the income statement as *Other net income from financial instruments measured at fair value through profit or loss.*

15) Leasing

Policy applicable from 1 January 2019[1]

UBS predominantly enters into lease contracts, or contracts that include lease components, as a lessee of real estate, including offices, retail branches and sales offices, with a small number of IT hardware leases. UBS identifies non-lease components of a contract and accounts for them separately from lease components.

When UBS is a lessee in a lease arrangement, UBS recognizes a lease liability and corresponding right-of-use (RoU) asset at the commencement of the lease term when UBS acquires control of the physical use of the asset. Lease liabilities are presented within *Other financial liabilities measured at amortized cost* and RoU assets within *Property, equipment and software*. The lease liability is measured based on the present value of the lease payments over the lease term, discounted using UBS's unsecured borrowing rate, given that the rate implicit in a lease is generally not observable to the lessee. Interest expense on the lease liability is presented within *Interest expense from financial instruments measured at amortized cost*. The RoU asset is recorded at an amount equal to the lease liability but is adjusted for rent prepayments, initial direct costs, any costs to refurbish the leased asset and/or lease incentives received. The RoU asset is depreciated over the shorter of the lease term or the useful life of the underlying asset, with the depreciation presented within *Depreciation and impairment of property, equipment and software*.

Lease payments generally include fixed payments and variable payments that depend on an index (such as an inflation index). When a lease contains an extension or termination option that the Group considers reasonably certain to be exercised, the expected rental payments or costs of termination are included within the lease payments used to generate the lease liability. UBS does not typically enter into leases with purchase options or residual value guarantees.

Where UBS acts as a lessor or sub-lessor under a finance lease, a receivable is recognized in *Other financial assets measured at amortized cost* at an amount equal to the present value of the aggregate of the lease payments plus any unguaranteed residual value that UBS expects to recover at the end of the lease term. Initial direct costs are also included in the initial measurement of the lease receivable. Lease payments received during the lease term are allocated as repayments of the outstanding receivable. Interest income reflects a constant periodic rate of return on UBS's net investment using the interest rate implicit in the lease (or, for sub-leases, the rate for the head lease). UBS reviews the estimated unguaranteed residual value annually, and if the estimated residual value to be realized is less than the amount assumed at lease inception, a loss is recognized for the expected shortfall. Where UBS acts as a lessor or sub-lessor in an operating lease, UBS recognizes the operating lease income on a straight-line basis over the lease term.

Lease receivables are subject to impairment requirements as set out in item 3g of this Note. Expected credit losses (ECL) on lease receivables are determined following the general impairment model within IFRS 9, *Financial Instruments*, without utilizing the simplified approach of always measuring impairment at the amount of lifetime ECL.

Comparative policy | *Policy applicable prior to 1 January 2019*

Leases that transfer substantially all the risks and rewards, but not necessarily legal title in the underlying assets, are classified as finance leases. All other leases are classified as operating leases. Lease contracts classified as operating leases where UBS is the lessee include non-cancelable long-term leases of office buildings in most UBS locations. Operating lease rentals payable are recognized as an expense on a straight-line basis over the lease term, which commences with control of the physical use of the property. Lease incentives are treated as a reduction of rental expense and are recognized on a consistent basis over the lease term.

→ **Refer to Note 15 and 33 for more information**

1 The accounting policy in this section applies from 1 January 2019, the effective date of IFRS 16.

b) Changes in accounting policies, comparability and other adjustments

New or amended accounting standards

Amendments to IAS 39, IFRS 9 and IFRS 7 (Interest Rate Benchmark Reform)
In September 2019, the IASB issued *Interest Rate Benchmark Reform – Amendments to IFRS 9, IAS 39 and IFRS 7*, enabling hedge accounting to continue during the period of uncertainty before existing interest rate benchmarks are replaced with alternative risk-free interest rates. The amendments are mandatorily effective from 1 January 2020, with early adoption permitted, and apply to hedge relationships that exist at the beginning of the reporting period or are designated thereafter, and to the gains or losses that exist in OCI on adoption. As permitted by the transitional provisions, UBS early adopted the revisions in 2019. Adopting these amendments allows UBS to maintain its existing hedge accounting relationships and to assume that the current benchmark rates will continue to exist, such that the hedge relationships are considered highly effective on a retrospective and prospective basis, with no consequential impact on the financial statements. Further, the amendments bring in additional disclosure requirements on the effects arising from the change in interest rate benchmarks, which are presented in Note 28.

IFRS 16, Leases
Effective from 1 January 2019, UBS adopted IFRS 16, *Leases*, which replaced IAS 17, *Leases*, and sets out the principles for the recognition, measurement, presentation and disclosure of leases.

IFRS 16 introduces a single lessee accounting model and fundamentally changes how UBS accounts for operating leases when acting as a lessee, with a requirement to record a right-of-use (RoU) asset and lease liability on the balance sheet. UBS is a lessee in a number of leases, primarily of real estate, including offices, retail branches and sales offices, with a smaller number of IT hardware leases. As permitted by the transitional provisions of IFRS 16, UBS elected to apply the modified retrospective approach and has not restated comparative figures. Overall, adoption of IFRS 16 resulted in a USD 3.5 billion increase in both total assets and total liabilities in UBS's consolidated financial statements. The newly recognized right-of-use assets and finance lease receivables were fully allocated to the business divisions. There was no effect on equity.

→ **Refer to the tables below and on the following page, and Note 2 for more information**

UBS applied the following practical expedients that are permitted on transition to IFRS 16 where UBS is a lessee in a lease previously classified as an operating lease:
– to not reassess whether or not a contract contained a lease;
– to rely on previous assessments of whether such contracts were considered onerous;
– to rely on previous sale-and-leaseback assessments;
– to adjust lease terms with the benefit of hindsight with respect to whether extension or termination options are reasonably certain of being exercised;
– to discount lease liabilities using the Group's incremental borrowing rate in each currency as of 1 January 2019;
– to initially measure the RoU asset at an amount equal to the lease liability for leases previously classified as operating leases, adjusted for existing lease balances, such as rent prepayments, rent accruals, lease incentives and onerous lease provisions, but excluding initial direct costs; and
– to not apply IFRS 16 to leases the remaining term of which will end within 12 months from the transition date.

The measurement of leases previously classified as finance leases where UBS acts as a lessee has not changed on transition to IFRS 16. Similarly, UBS has made no adjustments where UBS acts as a lessor, in either a finance or operating lease, of physical assets it owns. Where UBS acts as an intermediate lessor, i.e., where UBS enters into a head lease and sub-leases the asset to a third party, the sub-lease has been classified as either a finance or operating lease based primarily on whether the sub-lease term consumes the majority of the remaining useful life of the RoU asset arising from the head lease as of the transition date.

The following table reconciles the obligations in respect of operating leases as of 31 December 2018 to the opening lease liabilities recognized on 1 January 2019.

Reconciliation between operating lease commitments disclosed under IAS 17 and lease liabilities recognized under IFRS 16

USD million	
Total undiscounted operating lease commitments as of 31 December 2018	4,688
Leases with a remaining term of less than one year as of 1 January 2019	(18)
Excluded service components	(296)
Reassessment of lease term for extension or termination options	403
Total undiscounted lease payments	4,777
Discounted at a weighted average incremental borrowing rate of 3.07%	(744)
IFRS 16 transition adjustment	4,033
Finance lease liabilities as of 31 December 2018	24
Carrying amount of total lease liabilities as of 1 January 2019	4,057

Note 1 Summary of significant accounting policies (continued)

The following table provides details about the determination of RoU assets on transition.

Determination of RoU assets on transition

USD million	Carrying amount
Recognition of gross RoU assets upon adoption of IFRS 16 (IFRS 16 transition adjustment)	4,033
Offset by liabilities recognized as of 31 December 2018	(521)
of which: other non-financial liabilities (lease incentives)	*(204)*
of which: other financial liabilities measured at amortized cost (rent accruals)	*(185)*
of which: provisions (onerous lease provisions)	*(132)*
Increase in total assets resulting from the adoption of IFRS 16 on 1 January 2019[1]	3,512
Reclassification of assets recognized as of 31 December 2018 as an addition to RoU assets	43
of which: other financial assets measured at amortized cost (finance lease assets recognized under IAS 17 as of 31 December 2018)	*24*
of which: other non-financial assets (prepaid rent)	*19*
Reclassification of finance lease receivables from sub-leases to other financial assets measured at amortized cost resulting in a reduction of RoU assets	(176)
Total RoU assets as of 1 January 2019 presented within Property, equipment and software	3,378

1 Total liabilities increased by the same amount upon adoption of IFRS 16.

Lease liabilities are presented within *Other financial liabilities measured at amortized cost* and RoU assets within *Property, equipment and software*. Finance lease receivables are included within *Other financial assets measured at amortized cost*. Due to the practical expedients taken on transition, there was no effect on equity. The weighted average lease term on 1 January 2019 was approximately nine years.

The 2019 depreciation expense for RoU assets, which is presented within *Depreciation and impairment of property, equipment and software*, was USD 487 million. The 2019 interest expense on lease liabilities, which is presented within *Interest expense from financial instruments measured at amortized cost*, was USD 122 million. Occupancy expenses, which are presented within *General and administrative expenses*, decreased by USD 533 million between 2018 and 2019, which primarily reflected the adoption of IFRS 16. The full year effect of the application of IFRS 16 was a net decrease in profit before tax of approximately USD 60 million.

IFRIC 23, Uncertainty over Income Tax Treatments

Effective from 1 January 2019, UBS adopted IFRIC Interpretation 23, *Uncertainty over Income Tax Treatments* (IFRIC 23), which addresses how uncertain tax positions should be accounted for under IFRS. IFRIC 23 requires that, where acceptance of the tax treatment by the relevant tax authority is considered probable, it should be assumed as an accounting recognition matter that treatment of the item will ultimately be accepted. Therefore no tax provision would be required in such cases. However, if acceptance of the tax treatment is not considered probable, the entity is required to reflect that uncertainty using an expected value (i.e., a probability-weighted approach) or the single most likely amount.

Upon adoption of IFRIC 23 on 1 January 2019, UBS recognized a net tax expense of USD 11 million in retained earnings.

Amendments to IAS 19, Employee Benefits

Effective from 1 January 2019, UBS adopted amendments to IAS 19, *Employee Benefits*, which address the accounting when a plan amendment, curtailment or settlement occurs during the reporting period. The amendments require entities to use the updated actuarial assumption to determine current service cost and net interest for the remainder of the annual reporting period after such an event. The amendments also clarify how the accounting requirements for a plan amendment, curtailment or settlement affect the asset ceiling requirements. The amendments are effective prospectively for plan amendments, curtailments or settlements that occur on or after 1 January 2019. Adoption on 1 January 2019 had no effect on the Group's financial statements.

Annual Improvements to IFRS Standards 2015–2017 Cycle

Effective from 1 January 2019, UBS adopted Annual Improvements to IFRS Standards 2015–2017 Cycle, which resulted in amendments to IFRS 3, *Business Combinations*, IFRS 11, *Joint Arrangements*, IAS 12, *Income Taxes*, and IAS 23, *Borrowing Costs*. Adoption of these amendments on 1 January 2019 had no material effect on the Group's financial statements.

Other changes to presentation or segment reporting

Presentation of dividend income and expense from financial instruments measured at fair value through profit or loss

Effective from 1 January 2019, UBS refined the presentation of dividend income and expense. This resulted in a reclassification of dividends from *Interest income (expense) from financial instruments measured at fair value through profit or loss* into *Other net income from financial instruments measured at fair value through profit or loss* (prior to 1 January 2019: *Other net income from fair value changes on financial instruments*). The change aligns the presentation of dividends with related fair value changes from equity instruments and economic hedges, removing volatility that has historically arisen within both *Net interest income* and *Other net income from financial instruments measured at fair value through profit or loss*. There is no effect on *Total operating income* or *Net profit / (loss)*. Prior periods have been restated for this presentational change and the effect on the respective reporting lines is outlined in the table below.

Changes to the presentation of dividend income and expense from financial instruments measured at fair value through profit or loss

	For the year ended	
USD million	31.12.18	31.12.17
Interest income from financial instruments measured at fair value through profit or loss	(2,308)	(1,762)
Interest expense from financial instruments measured at fair value through profit or loss	1,331	1,190
Net interest income	(976)	(572)
Other net income from financial instruments measured at fair value through profit or loss	976	572

Changes to Corporate Center

As of 1 January 2019, UBS has operationally combined Group Treasury activities with Group ALM and calls this combined unit Group Treasury.

In order to further align Group and divisional performance, UBS adjusted the methodology for the allocation of Group Treasury and Corporate Center – Services funding costs and expenses to the business divisions. At the same time, UBS updated its funds transfer pricing framework to better reflect the sources and usage of funding. All of these changes became effective as of 1 January 2019 and prior-period segment information has been restated. Together, these changes decreased the operating results of the business divisions and thereby increased their adjusted cost / income ratios 1–2 percentage points, with an offsetting effect of USD 0.7 billion in Corporate Center's operating profit / (loss) before tax. Corporate Center has retained funding costs for deferred tax assets, costs relating to UBS's legal entity transformation program and other costs not attributable to, or representative of the performance of, the business divisions.

Alongside the update to allocations and UBS's funds transfer pricing framework, the Group has increased the allocation of balance sheet resources from Corporate Center to the business divisions, resulting in USD 223 billion of assets allocated from Corporate Center to the business divisions in restated 2018 numbers, predominantly from high-quality liquid assets and certain other assets centrally managed on behalf of the business divisions.

Further, due to the aforementioned changes to UBS's methodology for allocating funding costs and expenses and a substantial reduction in the size and resource consumption of the various Corporate Center units, UBS provides results for total Corporate Center only and does not separately report Corporate Center – Services, Group Treasury and Non-core and Legacy Portfolio, in compliance with IFRS 8, *Operating Segments*. Prior-period information has been restated.

→ **Refer to Note 2 for more information**

Note 1 Summary of significant accounting policies (continued)

c) International Financial Reporting Standards and Interpretations to be adopted in 2020 and later and other changes

Adoption of hedge accounting requirements of IFRS 9, *Financial Instruments*

Effective 1 January 2020, UBS will adopt the hedge accounting requirements of IFRS 9, *Financial Instruments* for most of its existing hedge accounting programs, including fair value hedges of interest rate risk related to debt instruments, cash flow hedges of forecast transactions and hedges of net investments in foreign operations. As permitted by IFRS 9, UBS will continue to account for its fair value hedges of portfolio interest rate risk related to loans under IAS 39, *Financial Instruments: Recognition and Measurement*.

IFRS 9's hedge accounting model further aligns accounting with risk management practices, amends hedge effectiveness requirements and prohibits voluntary de-designations. IFRS 9 permits certain additional hedged items, including layer components, net positions, or aggregated exposures, such as a combination of a non-derivative and derivative, to be designated. IFRS 9 also introduces the concept of "cost of hedging," under which the time value of options, the forward element of a forward contract or foreign currency basis spreads in a cross-currency swap can be deferred in other comprehensive income and, depending on the nature of the hedged transaction, released to the income statement either when the hedged item impacts the income statement or over the term of the hedged item.

The adoption of these requirements will have no consequential financial impact on UBS's financial statements. However, the adoption will allow UBS to designate more effective hedge accounting relationships going forward, including fair value hedges of foreign currency risk using cross-currency swaps, and reduce income statement volatility caused by foreign currency basis spreads.

Conceptual Framework

In March 2018, the IASB issued a revised version of its Conceptual Framework for Financial Reporting (the Framework). The Framework sets out the fundamental concepts of financial reporting and will be used by the IASB in developing IFRS standards. Preparers use the Framework as a point of reference to develop accounting policies in rare instances where a particular business transaction is not covered by existing IFRS standards.

The adoption of the Framework by UBS on 1 January 2020 will have no effect on the Group's financial statements.

Amendments to IFRS 3, *Business Combinations*

In October 2018, the IASB issued *Definition of a Business (Amendments to IFRS 3)*. The amendments clarify the definition of a business, with the objective of assisting in the determination of whether a transaction should be accounted for as a business combination or an asset acquisition. The amendments apply to transactions with an acquisition date on or after 1 January 2020. The adoption of these amendments on 1 January 2020 will have no effect on the Group's financial statements.

IFRS 17, *Insurance Contracts*

In May 2017, the IASB issued IFRS 17, *Insurance Contracts*, which sets out the accounting requirements for contractual rights and obligations that arise from insurance contracts issued and reinsurance contracts held. IFRS 17 is effective from 1 January 2021; however, as part of the targeted amendments to IFRS 17, the IASB is considering delaying the mandatory implementation date by one year. UBS is assessing the standard, but does not expect it to have a material effect on the Group's financial statements.

Note 2a Segment reporting

The operational structure of the Group as of 31 December 2019 was comprised of Corporate Center and four business divisions: Global Wealth Management, Personal & Corporate Banking, Asset Management and the Investment Bank.

→ **Refer to "Segment reporting" in Note 1a for more information**

Global Wealth Management

Global Wealth Management provides investment advice and solutions to private clients, in particular in the ultra high net worth and high net worth segments. Clients benefit from Global Wealth Management's comprehensive set of capabilities, including wealth planning, investing, lending, asset protection, philanthropy, corporate and banking services, as well as family office services in collaboration with the Investment Bank and Asset Management. Global Wealth Management has a global footprint, with the US representing its largest market. Clients are served through local offices and dedicated advisors. The ultra high net worth business is managed globally across the regions.

Personal & Corporate Banking

Personal & Corporate Banking provides comprehensive financial products and services to private, corporate and institutional clients and operates in Switzerland in the private and corporate loan market. Personal & Corporate Banking is central to UBS's universal bank model in Switzerland and it works with Global Wealth Management, the Investment Bank and Asset Management to help clients receive the best products and solutions for their specific financial needs. While Personal & Corporate Banking operates primarily in its home market of Switzerland, it also provides capabilities to support the growth of the international business activities of UBS's corporate and institutional clients through local hubs in Frankfurt, New York, Hong Kong and Singapore. The business is divided into Personal Banking and Corporate & Institutional Clients (CIC).

Asset Management

Asset Management is a large-scale and diversified global asset manager. It offers investment capabilities and styles across all major traditional and alternative asset classes, as well as advisory support to institutions, wholesale intermediaries and Global Wealth Management clients around the world. Asset Management offers clients a wide range of investment products and services in different asset classes in the form of segregated, pooled or advisory mandates, as well as registered investment funds in various jurisdictions. It covers the main asset management markets globally, and has a local presence in 22 markets, grouped in four regions: the Americas; Europe, Middle East and Africa; Switzerland; and Asia Pacific.

Investment Bank

The Investment Bank provides a range of services to institutional, corporate and wealth management clients to help them raise capital, grow their businesses, invest and manage risks. It is focused on its traditional strengths in advisory services, capital markets, equities and foreign exchange, complemented by a targeted rates and credit platform. The Investment Bank uses its research and technology capabilities to support its clients as they adapt to the evolving market structures and changes in the regulatory, technological, economic and competitive landscapes. The Investment Bank delivers solutions to clients, using its intellectual capital and electronic platforms. It also provides services to Global Wealth Management, Personal & Corporate Banking and Asset Management. It has a global reach, with a presence in more than 30 countries and principal offices in the major financial hubs.

Corporate Center

Corporate Center consists of the Group Chief Operating Officer area (Group Technology, Group Corporate Services, Group Human Resources and Group Operations), Group Treasury, Group Finance, Group Legal, Group Risk Control, Group Communications & Branding, Group Compliance, Regulatory & Governance, UBS in society, and Non-core and Legacy Portfolio (NCL). Over recent years, UBS has progressively aligned its support functions with the business divisions. The majority of these functions are either fully aligned or shared among business divisions, where they have full management responsibility.

Group Treasury manages the structural risk of UBS's balance sheet, including interest rate risk, structural foreign exchange risk and collateral risk, as well as the risks associated with the Group's liquidity and funding portfolios. Group Treasury serves all business divisions through two main risk management areas, and its risk management is fully integrated into the Group's risk governance framework.

NCL manages legacy positions from businesses exited by the Investment Bank. It is overseen by a committee chaired by the Group Chief Risk Officer. The portfolio also includes positions relating to legal matters arising from businesses that were transferred to it at the time of its formation.

Beginning with the first quarter 2019 and in compliance with IFRS 8, *Operating Segments*, UBS provides results for total Corporate Center only and does not separately report Corporate Center – Services, Group Treasury and NCL.

Note 2a Segment reporting (continued)

Changes in Corporate Center cost and resource allocation to business divisions

In order to further align Group and divisional performance, UBS has adjusted its methodology for the allocation of Corporate Center funding costs and expenses to the business divisions. At the same time, it has updated its funds transfer pricing framework to better reflect the sources and usage of funding. Additionally, UBS has increased the allocation of balance sheet resources from Corporate Center to the business divisions. Prior periods have been restated and the effect on the respective reporting lines is outlined in the table below.

These changes had no effect on the reported results or financial position of the Group.

Upon adoption of IFRS 16, *Leases*, on 1 January 2019, UBS additionally allocated approximately USD 3.5 billion of newly recognized right-of-use assets and finance lease receivables to the business divisions.

→ **Refer to Note 1b for more information**

Effects of changes in Corporate Center cost and resource allocation to business divisions on prior-period information

USD million increase / (reduction)	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Corporate Center	UBS
For the year ended 31 December 2018						
Operating profit / (loss) before tax	(374)	(116)	(25)	(163)	677	0
Total assets	113,702	61,894	3,769	43,562	(222,927)	0
For the year ended 31 December 2017						
Operating profit / (loss) before tax	(351)	(133)	(24)	(180)	689	0
Total assets	102,641	58,196	3,329	41,628	(205,795)	0

Segment reporting

USD million	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Corporate Center	UBS
For the year ended 31 December 2019[1]						
Net interest income[2]	3,947	1,992	(25)	(669)	(744)	4,501
Non-interest income[2]	12,426	1,744	1,962	7,968	367	24,467
Income	16,373	3,736	1,938	7,299	(378)	28,967
Credit loss (expense) / recovery	(20)	(21)	0	(30)	(7)	(78)
Total operating income	16,353	3,715	1,938	7,269	(385)	28,889
Personnel expenses	7,621	856	722	2,748	4,137	16,084
General and administrative expenses	1,217	224	197	688	2,962	5,288
Services (to) / from Corporate Center and other business divisions	4,056	1,181	486	2,926	(8,648)	0
of which: services from Corporate Center	*3,922*	*1,294*	*531*	*2,980*	*(8,727)*	*0*
Depreciation and impairment of property, equipment and software	5	13	1	8	1,738	1,765
Amortization and impairment of goodwill and intangible assets[3]	56	0	0	115	4	175
Total operating expenses	12,955	2,274	1,406	6,485	192	23,312
Operating profit / (loss) before tax	3,397	1,441	532	784	(577)	5,577
Tax expense / (benefit)						1,267
Net profit / (loss)						4,310
Additional information						
Total assets	309,766	209,405	34,565	315,855	102,592	972,183
Additions to non-current assets[4]	68	10	0	1	5,217	5,297

1 Comparative figures in this table have been restated for the changes in Corporate Center cost and resource allocation to the business divisions and the changes in the equity attribution framework. Refer to further discussion in this note and in Note 1b. 2 Effective 1 January 2019, UBS refined the presentation of dividend income and expense, reclassifying dividends from financial instruments measured at fair value through profit or loss from Net interest income to Non-interest income. Prior-period information was restated accordingly, with virtually all of the effect on the Group arising from the Investment Bank. Refer to Note 1b for more information. 3 Refer to Note 16 for more information. 4 Upon adoption of IFRS 16 on 1 January 2019, UBS additionally allocated approximately USD 3.5 billion of newly recognized assets to the business divisions, of which USD 3.4 billion related to non-current assets. Refer to Note 1b for more information.

Note 2a Segment reporting (continued)

USD million	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Corporate Center	UBS
For the year ended 31 December 2018[1]						
Net interest income[2]	4,101	2,049	(29)	(459)	(613)	5,048
Non-interest income[2]	12,700	2,168	1,881	8,538	(4)	25,283
Income	16,800	4,217	1,852	8,079	(617)	30,330
Credit loss (expense) / recovery	(15)	(56)	0	(38)	(8)	(118)
Total operating income	16,785	4,161	1,852	8,041	(626)	30,213
Personnel expenses	7,683	803	703	2,941	4,002	16,132
General and administrative expenses	1,724	285	202	651	3,935	6,797
Services (to) / from Corporate Center and other business divisions	4,070	1,263	518	2,942	(8,793)	0
of which: services from Corporate Center	*3,936*	*1,367*	*563*	*2,995*	*(8,861)*	*0*
Depreciation and impairment of property, equipment and software	4	14	2	8	1,199	1,228
Amortization and impairment of goodwill and intangible assets[3]	50	0	1	12	2	65
Total operating expenses	13,531	2,365	1,426	6,554	346	24,222
Operating profit / (loss) before tax	3,254	1,796	426	1,486	(971)	5,991
Tax expense / (benefit)						1,468
Net profit / (loss)						4,522
Additional information						
Total assets	313,737	200,703	28,140	302,253	113,656	958,489
Additions to non-current assets	196	23	1	89	1,666	1,975

1 Comparative figures in this table have been restated for the changes in Corporate Center cost and resource allocation to the business divisions and the changes in the equity attribution framework. Refer to further discussion in this note and in Note 1b. 2 Effective 1 January 2019, UBS refined the presentation of dividend income and expense, reclassifying dividends from financial instruments measured at fair value through profit or loss from Net interest income to Non-interest income. Prior-period information was restated accordingly, with virtually all of the effect on the Group arising from the Investment Bank. Refer to Note 1b for more information. 3 Refer to Note 16 for more information.

Note 2a Segment reporting (continued)

USD million	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Corporate Center	UBS
For the year ended 31 December 2017[1]						
Net interest income[2]	3,880	2,044	(23)	234	(64)	6,070
Non-interest income[2]	12,265	1,814	2,100	7,508	(4)	23,683
Income[3]	16,144	3,859	2,077	7,742	(68)	29,754
Credit loss (expense) / recovery	(8)	(20)	0	(92)	(11)	(131)
Total operating income	16,136	3,839	2,077	7,650	(80)	29,622
Personnel expenses	7,674	852	731	3,006	3,935	16,199
General and administrative expenses	1,263	296	235	675	4,479	6,949
Services (to) / from Corporate Center and other business divisions	3,926	1,203	543	2,860	(8,532)	0
of which: services from Corporate Center	*3,803*	*1,321*	*582*	*2,894*	*(8,601)*	*0*
Depreciation and impairment of property, equipment and software	4	13	1	10	1,024	1,053
Amortization and impairment of goodwill and intangible assets[4]	49	0	3	12	7	71
Total operating expenses	12,917	2,364	1,514	6,563	913	24,272
Operating profit / (loss) before tax	3,219	1,475	563	1,087	(993)	5,351
Tax expense / (benefit)						4,305
Net profit / (loss)						1,046
Additional information						
Total assets	297,631	197,258	17,968	311,359	115,064	939,279
Additions to non-current assets	120	15	1	3	1,607	1,746

1 Comparative figures in this table have been restated for the changes in Corporate Center cost and resource allocation to the business divisions and the changes in the equity attribution framework. Refer to further discussion in this note and in Note 1b. 2 Effective 1 January 2019, UBS refined the presentation of dividend income and expense, reclassifying dividends from financial instruments measured at fair value through profit or loss from Net interest income to Non-interest income. Prior-period information was restated accordingly, with virtually all of the effect on the Group arising from the Investment Bank. Refer to Note 1b for more information. 3 Includes impairments of financial assets classified at fair value through other comprehensive income (prior to 2018 classified as financial assets available for sale) for the year ended 31 December 2017 of USD 15 million, of which USD 12 million was recorded in Asset Management. 4 Refer to Note 16 for more information.

Note 2b Segment reporting by geographic location

The operating regions shown in the table below correspond to the regional management structure of the Group. The allocation of operating income to these regions reflects, and is consistent with, the basis on which the business is managed and its performance is evaluated. These allocations involve assumptions and judgments that management considers to be reasonable, and may be refined to reflect changes in estimates or management structure. The main principles of the allocation methodology are that client revenues are attributed to the domicile of the client and trading and portfolio management revenues are attributed to the country where the risk is managed. This revenue attribution is consistent with the mandate of the regional Presidents. Certain revenues, such as those related to Non-core and Legacy Portfolio in Corporate Center, are managed at a Group level. These revenues are included in the *Global* line.

The geographic analysis of non-current assets is based on the location of the entity in which the assets are recorded.

For the year ended 31 December 2019

	Total operating income		Total non-current assets	
	USD billion	Share %	USD billion	Share %
Americas	12.0	42	8.9	44
of which: USA	*10.9*	*38*	*8.5*	*42*
Asia Pacific	4.7	16	1.4	7
Europe, Middle East and Africa (excluding Switzerland)	5.8	20	3.0	15
Switzerland	6.7	23	7.1	35
Global	(0.4)	(1)	0.0	0
Total	28.9	100	20.3	100

For the year ended 31 December 2018[1]

	Total operating income		Total non-current assets	
	USD billion	Share %	USD billion	Share %
Americas	12.6	42	7.4	43
of which: USA	*11.5*	*38*	*7.0*	*41*
Asia Pacific	4.9	16	0.9	5
Europe, Middle East and Africa (excluding Switzerland)	6.2	21	2.0	12
Switzerland	7.2	24	6.8	40
Global	(0.7)	(2)	0.0	0
Total	30.2	100	17.1	100

For the year ended 31 December 2017[1]

	Total operating income		Total non-current assets	
	USD billion	Share %	USD billion	Share %
Americas	12.0	41	7.4	44
of which: USA	*11.2*	*38*	*6.9*	*41*
Asia Pacific	4.8	16	0.8	5
Europe, Middle East and Africa (excluding Switzerland)	6.1	21	2.0	12
Switzerland	6.9	23	6.5	40
Global	(0.2)	(1)	0.0	0
Total	29.6	100	16.7	100

1 Comparative figures in this table have been restated for the changes in Corporate Center cost and resource allocation to the business divisions and the changes in the equity attribution framework. Refer to further discussion in this note and in Note 1b.

Income statement notes

Note 3 Net interest income and other net income from financial instruments measured at fair value through profit or loss

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Net interest income from financial instruments measured at amortized cost and fair value through other comprehensive income	3,490	3,710	5,018
Net interest income from financial instruments measured at fair value through profit or loss	1,011	1,338	1,052
Other net income from financial instruments measured at fair value through profit or loss	6,842	6,960	5,637
Total	11,343	12,008	11,707
Global Wealth Management	*4,913*	*5,049*	*4,941*
of which: net interest income	*3,947*	*4,101*	*3,880*
of which: transaction-based income from foreign exchange and other intermediary activity[1]	*966*	*948*	*1,062*
Personal & Corporate Banking	*2,436*	*2,451*	*2,420*
of which: net interest income	*1,992*	*2,049*	*2,044*
of which: transaction-based income from foreign exchange and other intermediary activity[1]	*443*	*402*	*376*
Asset Management	*(13)*	*(35)*	*(34)*
Investment Bank	*4,189*	*4,756*	*4,272*
Corporate Client Solutions	*716*	*1,051*	*1,076*
Investor Client Services	*3,473*	*3,705*	*3,196*
Corporate Center	*(182)*	*(214)*	*107*
Net interest income[2,3]			
Net interest income from financial instruments measured at amortized cost and fair value through other comprehensive income			
Interest income from loans and deposits[4]	8,008	7,801	7,752
Interest income from securities financing transactions[5]	2,005	1,567	1,573
Interest income from other financial instruments measured at amortized cost	364	266	99
Interest income from debt instruments measured at fair value through other comprehensive income	120	142	152
Interest income from derivative instruments designated as cash flow hedges	188	324	846
Total interest income from financial instruments measured at amortized cost and fair value through other comprehensive income	10,684	10,100	10,422
Interest expense on loans and deposits[6]	2,634	1,980	1,404
Interest expense on securities financing transactions[7]	1,152	1,130	1,473
Interest expense on debt issued	3,285	3,281	2,528
Interest expense on lease liabilities[8]	122		
Total interest expense from financial instruments measured at amortized cost	7,194	6,391	5,404
Total net interest income from financial instruments measured at amortized cost and fair value through other comprehensive income	3,490	3,710	5,018
Net interest income from financial instruments measured at fair value through profit or loss			
Net interest income from financial instruments at fair value held for trading	1,214	1,105	1,374
Net interest income from brokerage balances	339	575	
Interest income from financial instruments at fair value not held for trading	2,274	1,757	
Other interest income	185	215	0
Interest expense on financial instruments designated at fair value	(3,000)	(2,314)	(322)
Total net interest income from financial instruments measured at fair value through profit or loss	1,011	1,338	1,052
Total net interest income	4,501	5,048	6,070
Other net income from financial instruments measured at fair value through profit or loss			
Investment Bank Corporate Client Solutions	229	552	633
Investment Bank Investor Client Services	4,630	4,663	3,405
Other business divisions and Corporate Center	1,984	1,744	1,599
Other net income from financial instruments measured at fair value through profit or loss	6,842	6,960	5,637
of which: net gains / (losses) from financial liabilities designated at fair value[9]	*(8,748)*	*9,382*	*(3,979)*

1 Mainly includes spread-related income in connection with client-driven transactions, foreign currency translation effects and income and expenses from precious metals, which are included in the income statement line Other net income from financial instruments measured at fair value through profit or loss. 2 Effective 1 January 2018, UBS adopted IFRS 9, Financial Instruments, which resulted in a prospective change in the classification of certain financial instruments. Refer to "Note 1c Changes in accounting policies and comparability and transition effects from the adoption of IFRS 9 Financial Instruments" in the "Consolidated financial statements" section of the Annual Report 2018 for more information. 3 Effective 1 January 2019, UBS refined the presentation of dividend income and expense, reclassifying dividends from Interest income (expense) from financial instruments measured at fair value through profit or loss to Other net income from financial instruments measured at fair value through profit or loss. Prior-year comparative information was restated accordingly. Refer to Note 1b for more information. 4 Consists of interest income from cash and balances at central banks, loans and advances to banks and customers, cash collateral receivables on derivative instruments, and negative interest on amounts due to banks and customer deposits. 5 Includes interest income on receivables from securities financing transactions and negative interest, including fees, on payables from securities financing transactions. 6 Consists of interest expense on amounts due to banks, cash collateral payables on derivative instruments, customer deposits, and negative interest on cash and balances at central banks, loans and advances to banks. 7 Includes interest expense on payables from securities financing transactions and negative interest, including fees, on receivables from securities financing transactions. 8 Relates to lease liabilities recognized upon adoption of IFRS 16 on 1 January 2019. Refer to Note 1b for more information. 9 Excludes fair value changes of hedges related to financial liabilities designated at fair value and foreign currency translation effects arising from translating foreign currency transactions into the respective functional currency, both of which are reported within Other net income from financial instruments measured at fair value through profit or loss. 2019 included a net loss of USD 1,830 million (2018: net gain of USD 2,152 million) related to financial liabilities related to unit-linked investment contracts, which are designated at fair value through profit or loss. This was offset by a net gain of USD 1,830 million (2018: net loss of USD 2,134 million) related to financial assets for unit-linked investment contracts that are mandatorily measured at fair value through profit or loss not held for trading.

Note 4 Net fee and commission income[1]

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Fee and commission income			
Underwriting fees	741	811	1,003
of which: equity underwriting fees	*360*	*431*	*573*
of which: debt underwriting fees	*382*	*380*	*429*
M&A and corporate finance fees	774	768	698
Brokerage fees	3,248	3,521	3,820
Investment fund fees	4,858	4,954	4,322
Portfolio management and related services	7,656	7,756	7,666
Other	1,832	1,786	1,854
Total fee and commission income[1]	19,110	19,598	19,362
of which: recurring	*12,544*	*12,911*	
of which: transaction-based	*6,402*	*6,594*	
of which: performance-based	*163*	*93*	
Fee and commission expense			
Brokerage fees paid	310	316	673
Distribution fees paid	590	580	514
Other	797	807	653
Total fee and commission expense	1,696	1,703	1,840
Net fee and commission income	17,413	17,895	17,522
of which: net brokerage fees	*2,938*	*3,205*	*3,147*

1 For the year ended 31 December 2019, reflects third-party fee and commission income of USD 11,694 million for Global Wealth Management, USD 3,355 million for the Investment Bank, USD 2,659 million for Asset Management, USD 1,307 million for Personal & Corporate Banking and USD 94 million for Corporate Center (for the year ended 31 December 2018: USD 12,059 million for Global Wealth Management, USD 3,525 million for the Investment Bank, USD 2,579 million for Asset Management, USD 1,338 million for Personal & Corporate Banking and USD 97 million for Corporate Center).

Note 5 Other income

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Associates, joint ventures and subsidiaries			
Net gains / (losses) from acquisitions and disposals of subsidiaries[1]	(36)	(290)[2,3]	32
Net gains / (losses) from disposals of investments in associates	4	46[4]	0
Share of net profits of associates and joint ventures	46	529[5]	76
Impairments related to associates	(1)	0	(7)
Total	13	284	101
Net gains / (losses) from disposals of financial assets measured at fair value through other comprehensive income	31	0	195
Impairment of financial assets measured at fair value through other comprehensive income	0	0	(15)
Net gains / (losses) from disposals of financial assets measured at amortized cost	0	0	14
Income from properties[6]	27	24	24
Net gains / (losses) from properties held for sale	(19)	40	0
Other	160	80	204
Total other income	212	428	524

1 Includes foreign exchange gains / (losses) reclassified from other comprehensive income related to the disposal or closure of foreign operations. 2 Includes a remeasurement loss of USD 270 million related to UBS Securities China. Refer to Note 32 for more information. 3 Includes a USD 25 million gain on sale of subsidiaries and a USD 31 million pre-tax gain on sale of real estate related to the Widder Hotel. Refer to Note 32 for more information. 4 Reflects a net foreign currency translation gain related to UBS Securities China. Refer to Note 32 for more information. 5 Includes a USD 460 million valuation gain on our equity ownership in SIX related to the sale of SIX Payment Services to Worldline. 6 Includes rent received from third parties.

Note 6 Personnel expenses

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Salaries[1]	6,518	6,448	6,154
Variable compensation – performance awards[2]	2,755	2,995	3,151
of which: guarantees for new hires	*29*	*43*	*36*
Variable compensation – other[2]	246	243	252
of which: replacement payments[3]	*56*	*72*	*72*
of which: forfeiture credits	*(86)*	*(136)*	*(107)*
of which: severance payments[4]	*125*	*123*	*113*
of which: retention plan and other payments	*56*	*66*	*63*
of which: Deferred Contingent Capital Plan – interest expense	*94*	*119*	*111*
Financial advisor compensation[2,5]	4,043	4,054	4,064
Contractors	381	489	460
Social security	799	791	814
Pension and other post-employment benefit plans	787	457[6]	723
Other personnel expenses	555	654	581
Total personnel expenses	16,084	16,132	16,199

1 Includes role-based allowances. 2 Refer to Note 30 for more information. 3 Replacement payments are payments made to compensate employees for deferred awards forfeited as a result of joining UBS. 4 Includes legally obligated and standard severance payments. 5 Financial advisor compensation consists of grid-based compensation based directly on compensable revenues generated by financial advisors and supplemental compensation calculated on the basis of financial advisor productivity, firm tenure, assets and other variables. It also includes expenses related to compensation commitments with financial advisors entered into at the time of recruitment that are subject to vesting requirements. 6 Changes to the pension fund of UBS in Switzerland in 2018 resulted in a reduction in the pension obligation recognized by UBS. As a consequence, a pre-tax gain of USD 241 million was recognized in the income statement in 2018, with no overall effect on total equity. Refer to Note 29 for more information.

Note 7 General and administrative expenses

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Occupancy[1]	381	914	908
Rent and maintenance of IT and other equipment	718	654	570
Communication and market data services	627	638	622
Administration	551	590	612
of which: UK and German bank levies[2]	*41*	*58*	*20*
Marketing and public relations	317	366	419
Travel and entertainment	378	425	425
Professional fees	882	1,015	1,227
Outsourcing of IT and other services	1,158	1,427	1,597
Litigation, regulatory and similar matters[3]	165	657	434
Other	111	110	135
Total general and administrative expenses	5,288	6,797	6,949

1 Occupancy expenses decreased following the application of IFRS 16, which was adopted on 1 January 2019. Refer to Note 1b for more information. 2 The UK bank levy expenses of USD 30 million (USD 40 million for 2018 and USD 17 million for 2017) included a credit of USD 31 million (USD 45 million and USD 85 million, respectively) related to prior years. 3 Reflects the net increase in provisions for litigation, regulatory and similar matters recognized in the income statement. Refer to Note 21 for more information. Also includes recoveries from third parties of USD 11 million, USD 29 million and USD 55 million for the years ended 31 December 2019, 31 December 2018 and 31 December 2017, respectively.

Note 8 Income taxes

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Tax expense / (benefit)			
Swiss			
Current	365	469	455
Deferred	265	2,377	107
Total Swiss	630	2,846	562
Non-Swiss			
Current	426	575	435
Deferred	211	(1,953)	3,308
Total non-Swiss	637	(1,378)	3,743
Total income tax expense / (benefit) recognized in the income statement	1,267	1,468	4,305

Income tax recognized in the income statement

Income tax expenses of USD 1,267 million were recognized for the Group in 2019, representing an effective tax rate of 22.7%. This included net Swiss tax expenses of USD 630 million and net non-Swiss tax expenses of USD 637 million.

The Swiss tax expenses included current tax expenses of USD 365 million related to taxable profits earned by Swiss subsidiaries. In addition, they included deferred tax expenses of USD 265 million, which primarily reflect the amortization of deferred tax assets (DTAs) previously recognized in relation to deductible temporary differences.

The non-Swiss tax expenses included current tax expenses of USD 426 million related to taxable profits earned by non-Swiss subsidiaries and branches. In addition, they included deferred tax expenses of USD 211 million. These included expenses of USD 471 million that primarily reflected the amortization of DTAs previously recognized in relation to tax losses carried forward and deductible temporary differences, including the amortization of US tax loss DTAs at the level of UBS Americas Inc. These were partly offset by a benefit of USD 260 million in respect of additional DTA recognition that resulted from the contribution of real estate assets by UBS AG to UBS Americas Inc. in the year. The additional DTA recognition related to the elections that were made in the fourth quarter of 2018 to capitalize certain historic real estate costs.

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Operating profit / (loss) before tax	5,577	5,991	5,351
of which: Swiss	*2,571*	*1,843*	*2,093*
of which: non-Swiss	*3,006*	*4,148*	*3,258*
Income taxes at Swiss tax rate of 20.5% for 2019 and 21% for 2018 and 2017	1,143	1,258	1,124
Increase / (decrease) resulting from:			
Non-Swiss tax rates differing from Swiss tax rate	82	55	217
Tax effects of losses not recognized	131	223	173
Previously unrecognized tax losses now utilized	(265)	(25)	(368)
Non-taxable and lower taxed income	(351)	(430)	(309)
Non-deductible expenses and additional taxable income	732	905	606
Adjustments related to prior years – current tax	(5)	114	(13)
Adjustments related to prior years – deferred tax	(6)	26	4
Change in deferred tax recognition	(294)	(795)	(165)
Adjustments to deferred tax balances arising from changes in tax rates	(9)	0	2,897
Other items	107	137	139
Income tax expense / (benefit)	1,267	1,468	4,305

Note 8 Income taxes (continued)

The components of operating profit before tax, and the differences between income tax expense reflected in the financial statements and the amounts calculated at the Swiss tax rate, are provided in the table on the previous page and explained below.

Non-Swiss tax rates differing from Swiss tax rate

To the extent that Group profits or losses arise outside Switzerland, the applicable local tax rate may differ from the Swiss tax rate. This item reflects, for such profits, an adjustment from the tax expense that would arise at the Swiss tax rate to the tax expense that would arise at the applicable local tax rate. Similarly, it reflects, for such losses, an adjustment from the tax benefit that would arise at the Swiss tax rate to the tax benefit that would arise at the applicable local tax rate.

Tax effects of losses not recognized

This item relates to tax losses of entities arising in the year that are not recognized as DTAs. Consequently, no tax benefit arises in relation to those losses. Therefore, the tax benefit calculated by applying the local tax rate to those losses as described above is reversed.

Previously unrecognized tax losses now utilized

This item relates to taxable profits of the year that are offset by tax losses of previous years for which no DTAs were previously recorded. Consequently, no current tax or deferred tax expense arises in relation to those taxable profits. Therefore, the tax expense calculated by applying the local tax rate on those profits is reversed.

Non-taxable and lower taxed income

This item relates to tax deductions for the year in respect of permanent differences. These include deductions in respect of profits that are either not taxable or are taxable at a lower rate of tax than the local tax rate. They also include deductions made for tax purposes, which are not reflected in the accounts.

Non-deductible expenses and additional taxable income

This item relates to additional taxable income for the year in respect of permanent differences. These include income that is recognized for tax purposes by an entity, but is not included in its profit that is reported in the financial statements. In addition, they include expenses for the year that are non-deductible. For example, the costs of entertaining clients are not deductible in certain locations.

Adjustments related to prior years – current tax

This item relates to adjustments to current tax expense for prior years, e.g., if the tax payable for a year is agreed with the tax authorities in an amount that differs from the amount previously reflected in the financial statements.

Adjustments related to prior years – deferred tax

This item relates to adjustments to deferred tax positions recognized in prior years, e.g., if a tax loss for a year is fully recognized and the amount of the tax loss agreed with the tax authorities is expected to differ from the amount previously recognized as DTAs in the accounts.

Change in deferred tax recognition

This item relates to changes in DTAs, including those previously recognized resulting from reassessments of expected future taxable profits. It also includes changes in temporary differences in the year, for which deferred tax is not recognized.

Adjustments to deferred tax balances arising from changes in tax rates

This item relates to remeasurements of DTAs and liabilities recognized due to changes in tax rates. These have the effect of changing the future tax saving that is expected from tax losses or deductible tax differences and therefore the amount of DTAs recognized or, alternatively, changing the tax cost of additional taxable income from taxable temporary differences and therefore the deferred tax liability.

Other items

Other items include other differences between profits or losses at the local tax rate and the actual local tax expense or benefit, including movements in provisions for uncertain positions in relation to the current year and other items.

Income tax recognized directly in equity

Certain tax expenses and benefits were recognized directly in equity during the year. These included the following items:

- a net tax expense of USD 326 million recognized in other comprehensive income (OCI) (2018: net benefit of USD 345 million), which included a tax expense of USD 253 million related to cash flow hedges (2018: benefit of USD 67 million), a tax expense of USD 41 million related to financial assets recognized at fair value through OCI (2018: benefit of USD 12 million), a tax expense of zero related to foreign currency translation gains and losses (2018: expense of USD 2 million), a tax expense of USD 41 million related to defined benefit pension plans (2018: benefit of USD 276 million) and a tax benefit of USD 8 million related to own credit (2018: expense of USD 8 million);
- a net tax benefit of USD 11 million recognized in share premium (2018: benefit of USD 4 million).

Deferred tax assets and liabilities

The Group has gross DTAs, valuation allowances and recognized DTAs related to tax loss carry-forwards and deductible temporary differences and also deferred tax liabilities in respect of taxable temporary differences as shown in the table below. The valuation allowances reflect DTAs that were not recognized because it was not considered probable that future taxable profits will be available to utilize the related tax loss carry-forwards and deductible temporary differences.

Of the recognized DTAs as of 31 December 2019, USD 9.3 billion related to the US and USD 0.2 billion related to other locations (as of 31 December 2018, USD 9.5 billion related to the US and USD 0.6 billion related to other locations).

The recognition of DTAs is supported by forecasts of taxable profits for the entities concerned. In addition, tax planning opportunities are available that would result in additional future taxable income and these would be utilized, if necessary.

As of 31 December 2019, the Group has recognized DTAs of USD 75 million (31 December 2018: USD 53 million) in respect of entities that incurred losses in either the current or preceding year.

USD million	31.12.19			31.12.18		
Deferred tax assets[1]	Gross	Valuation allowance	Recognized	Gross	Valuation allowance	Recognized
Tax loss carry-forwards	14,826	(8,861)	5,965	15,088	(8,989)	6,099
Temporary differences	4,186	(613)	3,572	4,571	(565)	4,006
of which: related to real estate costs capitalized for US tax purposes	*2,219*	*0*	*2,219*	*2,159*	*(25)*	*2,134*
of which: related to compensation and benefits	*1,080*	*(179)*	*901*	*1,150*	*(192)*	*959*
of which: related to trading assets	*99*	*(5)*	*93*	*390*	*(50)*	*339*
of which: related to investments in subsidiaries and goodwill	*6*	*0*	*6*	*202*	*0*	*202*
of which: other	*782*	*(429)*	*353*	*670*	*(298)*	*372*
Total deferred tax assets	19,011	(9,474)	9,537	19,659	(9,554)	10,105
Deferred tax liabilities						
Goodwill and intangible assets			29			26
Cash flow hedges			156			0
Other			126			62
Total deferred tax liabilities			311			88

1 Less deferred tax liabilities as applicable.

Note 8 Income taxes (continued)

Unrecognized tax loss carry-forwards

USD million	31.12.19	31.12.18
Within 1 year	13	0
From 2 to 5 years	609	464
From 6 to 10 years	14,712	16,297
From 11 to 20 years	4,030	4,457
No expiry	18,364	17,210
Total	37,728	38,428

As of 31 December 2019, USD 17.8 billion of the unrecognized tax losses carried forward related to the US, USD 14.9 billion related to the UK and USD 5.0 billion related to other locations (as of 31 December 2018, USD 20.0 billion related to the US, USD 14.2 billion related to the UK and USD 4.2 billion related to other locations).

In general, US federal tax losses incurred prior to 31 December 2017 can be carried forward for 20 years, and US federal tax losses incurred after 31 December 2017 and UK tax losses can be carried forward indefinitely. The amounts of US tax loss carry-forwards that are included in the above table are based on their amount for federal tax purposes rather than for state and local tax purposes.

Deferred tax liabilities are recognized in respect of investments in subsidiaries, branches and associates and interests in joint arrangements, except to the extent that the Group can control the timing of the reversal of the associated taxable temporary difference and it is probable that it will not reverse in the foreseeable future. However, as of 31 December 2019, this exception was not considered to apply to any taxable temporary differences.

Note 9 Earnings per share (EPS) and shares outstanding

	As of or for the year ended		
	31.12.19	31.12.18	31.12.17
Basic earnings (USD million)			
Net profit / (loss) attributable to shareholders	4,304	4,516	969
Diluted earnings (USD million)			
Net profit / (loss) attributable to shareholders	4,304	4,516	969
Less: (profit) / loss on own equity derivative contracts	0	(2)	0
Net profit / (loss) attributable to shareholders for diluted EPS	4,304	4,514	969
Weighted average shares outstanding			
Weighted average shares outstanding for basic EPS[1]	3,663,278,238	3,730,297,877	3,716,174,261
Effect of dilutive potential shares resulting from notional shares, in-the-money options and warrants outstanding	103,881,600	111,271,269	120,540,272
Weighted average shares outstanding for diluted EPS	3,767,159,838	3,841,569,146	3,836,714,533
Earnings per share (USD)			
Basic	1.17	1.21	0.26
Diluted	1.14	1.18	0.25
Shares outstanding			
Shares issued	3,859,055,395	3,855,634,749	3,853,096,603
Treasury shares	243,021,296	166,467,802	132,301,550
Shares outstanding	3,616,034,099	3,689,166,947	3,720,795,053

1 The weighted average shares outstanding for basic EPS are calculated by taking the number of shares at the beginning of the period, adjusted by the number of shares acquired or issued during the period, multiplied by a time-weighted factor for the period outstanding. As a result, balances are affected by the timing of acquisitions and issuances during the period.

The table below outlines the potential shares which could dilute basic earnings per share in the future, but were not dilutive for the periods presented.

Number of shares	31.12.19	31.12.18	31.12.17
Potentially dilutive instruments			
Employee share-based compensation awards[1]		3,605,198	24,124,341
Other equity derivative contracts	21,632,879	11,912,450	9,122,496
Total	21,632,879	15,517,648	33,246,837

1 The last remaining option awards and stock appreciation rights expired during 2019.

Balance sheet notes

Note 10 Financial assets at amortized cost and other positions in scope of expected credit loss measurement

The tables on the following pages provide information about financial instruments and certain other credit lines that are subject to expected credit loss (ECL) requirements. UBS has established ECL disclosure segments or "ECL segments" to disaggregate portfolios based on shared risk characteristics and on the same or similar rating methods applied. The key segments are presented in the table below.

→ **Refer to Note 23 for more information about expected credit loss measurement**

Segment	Segment description	Description of credit risk sensitivity	Business division / Corporate Center
Private clients with mortgages	Lending to private clients secured by owner-occupied real estate and personal account overdrafts of those clients	Sensitive to the interest rate environment, employment status and influence from regional effects (e.g., property values)	– Personal & Corporate Banking – Global Wealth Management
Real estate financing	Rental or income-producing real estate financing to private and corporate clients secured by real estate	Sensitive to GDP development, the interest rate environment and regional effects (e.g., property values)	– Personal & Corporate Banking – Global Wealth Management – Investment Bank
Large corporate clients	Lending to large corporate and multinational clients	Sensitive to GDP development, seasonality, business cycles and collateral values (diverse collateral including real estate and other collateral types)	– Personal & Corporate Banking – Investment Bank
SME clients	Lending to small and medium-sized corporate clients	Sensitive to GDP development, the interest rate environment and, to some extent, seasonality, business cycles and collateral values (diverse collateral including real estate and other collateral types)	– Personal & Corporate Banking
Lombard	Loans secured by pledges of marketable securities, guarantees and other forms of collateral	Sensitive to the market (e.g., changes in collateral as well as in invested assets)	– Global Wealth Management
Credit cards	Credit card solutions in Switzerland and the US	Sensitive to the interest rate environment and employment status	– Personal & Corporate Banking – Global Wealth Management
Commodity trade finance	Working capital financing of commodity traders, generally extended on a self-liquidating transactional basis	Sensitive primarily to the strength of individual transaction structures and collateral values (price volatility of commodities) as the primary source for debt service is directly linked to the shipments financed	– Personal & Corporate Banking
Financial intermediaries and hedge funds	Lending to financial institutions and pension funds, including exposures to broker-dealers and clearing houses	Sensitive to GDP development, the interest rate environment, regulatory changes and political risk	– Personal & Corporate Banking – Investment Bank – Corporate Center

→ **Refer to Note 23g for more details regarding sensitivity**

Note 10 Financial assets at amortized cost and other positions in scope of expected credit loss measurement (continued)

For amortized cost instruments, the net carrying amount represents the maximum exposure to credit risk, taking into account the allowance for credit losses. Financial assets measured at fair value through other comprehensive income (FVOCI) are also subject to ECL; however, unlike for amortized cost instruments, the allowance does not reduce the carrying amount of these financial assets. Rather, the carrying amount of financial assets measured at FVOCI represents the maximum exposure to credit risk.

No purchased credit-impaired financial assets have been recognized in the period. Originated credit-impaired financial assets were not material and are not presented in the table below and on the following page.

In addition to on-balance sheet financial assets, certain off-balance sheet financial instruments and other credit lines are also subject to ECL. The maximum exposure to credit risk for off-balance sheet financial instruments is calculated based on the maximum contractual amounts.

USD million	31.12.19							
	Carrying amount[1]				ECL allowances			
Financial instruments measured at amortized cost	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Cash and balances at central banks	107,068	107,068	0	0	0	0	0	0
Loans and advances to banks	12,447	12,367	80	0	(6)	(4)	(1)	(1)
Receivables from securities financing transactions	84,245	84,245	0	0	(2)	(2)	0	0
Cash collateral receivables on derivative instruments	23,289	23,289	0	0	0	0	0	0
Loans and advances to customers	326,786	309,499	15,538	1,749	(764)	(82)	(123)	(559)
of which: Private clients with mortgages	*132,646*	*124,063*	*7,624*	*959*	*(110)*	*(15)*	*(55)*	*(41)*
of which: Real estate financing	*38,481*	*32,932*	*5,532*	*17*	*(43)*	*(5)*	*(34)*	*(4)*
of which: Large corporate clients	*9,703*	*9,184*	*424*	*94*	*(117)*	*(15)*	*(4)*	*(98)*
of which: SME clients	*11,786*	*9,817*	*1,449*	*521*	*(303)*	*(17)*	*(15)*	*(271)*
of which: Lombard	*112,893*	*112,796*	*0*	*98*	*(22)*	*(4)*	*0*	*(18)*
of which: Credit cards	*1,661*	*1,314*	*325*	*22*	*(35)*	*(8)*	*(14)*	*(13)*
of which: Commodity trade finance	*2,844*	*2,826*	*8*	*10*	*(81)*	*(5)*	*0*	*(77)*
Other financial assets measured at amortized cost	22,980	21,953	451	576	(143)	(35)	(13)	(95)
of which: Loans to financial advisors	*2,877*	*2,341*	*334*	*202*	*(109)*	*(29)*	*(11)*	*(70)*
Total financial assets measured at amortized cost	576,815	558,420	16,069	2,326	(915)	(124)	(137)	(655)
Financial assets measured at fair value through other comprehensive income	6,345	6,345	0	0	0	0	0	0
Total on-balance sheet financial assets in scope of ECL requirements	583,159	564,765	16,069	2,326	(915)	(124)	(137)	(655)

	Total exposure				ECL provisions			
Off-balance sheet (in scope of ECL)	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Guarantees	18,142	17,757	304	82	(42)	(8)	(1)	(33)
of which: Large corporate clients	*3,687*	*3,461*	*203*	*24*	*(10)*	*(1)*	*0*	*(9)*
of which: SME clients	*1,180*	*1,055*	*67*	*58*	*(24)*	*0*	*0*	*(23)*
of which: Financial intermediaries and hedge funds	*7,966*	*7,950*	*16*	*0*	*(5)*	*(4)*	*0*	*0*
of which: Lombard	*622*	*622*	*0*	*0*	*(1)*	*0*	*0*	*(1)*
of which: Commodity trade finance	*2,334*	*2,320*	*13*	*0*	*(1)*	*(1)*	*0*	*0*
Irrevocable loan commitments	27,547	27,078	419	50	(35)	(30)	(5)	0
of which: Large corporate clients	*18,735*	*18,349*	*359*	*27*	*(27)*	*(24)*	*(3)*	*0*
Forward starting reverse repurchase and securities borrowing agreements	1,657	1,657	0	0	0	0	0	0
Committed unconditionally revocable credit lines	35,092	33,848	1,197	46	(34)	(17)	(17)	0
of which: Real estate financing	*5,242*	*4,934*	*307*	*0*	*(16)*	*(3)*	*(13)*	*0*
of which: Large corporate clients	*4,274*	*4,188*	*69*	*17*	*(1)*	*(1)*	*0*	*0*
of which: SME clients	*4,787*	*4,589*	*171*	*27*	*(9)*	*(8)*	*(1)*	*0*
of which: Lombard	*7,976*	*7,975*	*0*	*1*	*0*	*0*	*0*	*0*
of which: Credit cards	*7,890*	*7,535*	*355*	*0*	*(6)*	*(4)*	*(2)*	*0*
of which: Commodity trade finance	*344*	*344*	*0*	*0*	*0*	*0*	*0*	*0*
Irrevocable committed prolongation of existing loans	3,289	3,285	0	4	(3)	(3)	0	0
Total off-balance sheet financial instruments and other credit lines	85,728	83,626	1,920	182	(114)	(58)	(23)	(33)
Total allowances and provisions					(1,029)	(181)	(160)	(688)

1 The carrying amount of financial assets measured at amortized cost represents the total gross exposure net of the respective ECL allowances.

Note 10 Financial assets at amortized cost and other positions in scope of expected credit loss measurement (continued)

USD million	31.12.18							
	Carrying amount[1]				ECL allowances			
Financial instruments measured at amortized cost	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Cash and balances at central banks	108,370	108,370	0	0	0	0	0	0
Loans and advances to banks	16,868	16,666	202	0	(7)	(4)	(1)	(3)
Receivables from securities financing transactions	95,349	95,349	0	0	(2)	(2)	0	0
Cash collateral receivables on derivative instruments	23,602	23,602	0	0	0	0	0	0
Loans and advances to customers	320,352	298,248	20,357	1,748	(772)	(69)	(155)	(549)
of which: Private clients with mortgages	*126,335*	*115,679*	*9,859*	*796*	*(138)*	*(16)*	*(83)*	*(39)*
of which: Real estate financing	*36,474*	*28,578*	*7,858*	*38*	*(59)*	*(3)*	*(40)*	*(16)*
of which: Large corporate clients	*11,390*	*10,845*	*457*	*88*	*(95)*	*(9)*	*(4)*	*(82)*
of which: SME clients	*9,924*	*8,029*	*1,263*	*632*	*(281)*	*(13)*	*(12)*	*(256)*
of which: Lombard	*111,722*	*111,707*	*0*	*14*	*(21)*	*(4)*	*0*	*(17)*
of which: Credit cards	*1,529*	*1,216*	*297*	*16*	*(30)*	*(6)*	*(13)*	*(11)*
of which: Commodity trade finance	*3,260*	*2,798*	*445*	*16*	*(86)*	*(5)*	*(3)*	*(78)*
Other financial assets measured at amortized cost	22,563	21,862	223	478	(155)	(43)	(4)	(109)
of which: Loans to financial advisors	*3,291*	*3,104*	*62*	*125*	*(113)*	*(34)*	*(2)*	*(77)*
Total financial assets measured at amortized cost	587,104	564,096	20,782	2,226	(937)	(117)	(159)	(660)
Financial assets measured at fair value through other comprehensive income	6,667	6,667	0	0	0	0	0	0
Total on-balance sheet financial assets in scope of ECL requirements	593,770	570,763	20,782	2,226	(937)	(117)	(159)	(660)
	Total exposure				ECL provisions			
Off-balance sheet (in scope of ECL)	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Guarantees	18,146	17,321	611	215	(43)	(7)	(2)	(34)
of which: Large corporate clients	*3,862*	*3,599*	*136*	*127*	*(8)*	*(1)*	*(1)*	*(6)*
of which: SME clients	*1,298*	*1,057*	*164*	*77*	*(26)*	*0*	*0*	*(25)*
of which: Financial intermediaries and hedge funds	*7,193*	*7,125*	*67*	*0*	*(4)*	*(3)*	*0*	*0*
of which: Lombard	*834*	*834*	*0*	*0*	*0*	*0*	*0*	*0*
of which: Commodity trade finance	*2,097*	*1,851*	*236*	*11*	*(1)*	*(1)*	*0*	*0*
Irrevocable loan commitments	31,212	30,590	568	53	(37)	(32)	(5)	0
of which: Large corporate clients	*22,019*	*21,492*	*519*	*7*	*(31)*	*(26)*	*(4)*	*0*
Forward starting reverse repurchase and securities borrowing agreements	937	937	0	0	0	0	0	0
Committed unconditionally revocable credit lines	36,634	35,121	1,420	93	(36)	(19)	(16)	0
of which: Real estate financing	*2,562*	*2,150*	*401*	*11*	*(17)*	*(4)*	*(12)*	*0*
of which: Large corporate clients	*4,260*	*4,152*	*91*	*17*	*(2)*	*(1)*	*0*	*0*
of which: SME clients	*4,505*	*4,163*	*285*	*57*	*(7)*	*(6)*	*(1)*	*0*
of which: Lombard	*7,402*	*7,402*	*0*	*0*	*0*	*(1)*	*0*	*0*
of which: Credit cards	*7,343*	*7,035*	*309*	*0*	*(6)*	*(4)*	*(2)*	*0*
of which: Commodity trade finance	*3,467*	*3,209*	*254*	*4*	*(2)*	*(2)*	*0*	*0*
Irrevocable committed prolongation of existing loans	3,339	2,861	456	22	(1)	(1)	0	0
Total off-balance sheet financial instruments and other credit lines	90,268	86,830	3,055	383	(116)	(59)	(23)	(34)
Total allowances and provisions					(1,054)	(176)	(183)	(695)

1 The carrying amount of financial assets measured at amortized cost represents the total gross exposure net of the respective ECL allowances.

Coverage ratios are calculated by taking ECL allowances and provisions divided by the gross carrying amount of the exposures. These ratios have remained broadly unchanged in 2019 and are influenced by the following key factors:

- significant asset balances are held with central banks as part of the requirement to hold high-quality liquid assets;
- Lombard loans are secured with marketable securities in portfolios which are in general highly diversified with strict lending policies that are intended to ensure that credit risk is minimal under most circumstances;
- mortgage loans to private clients and real estate financing are controlled by conservative eligibility criteria, including low loan-to-value ratios and strong debt service capabilities. The risk of rising interest rates has been taken into account in the scenario selection process;
- the amount of unsecured retail lending (including credit cards) in Switzerland is insignificant;
- contractual maturities in the loan portfolio, which are a factor in the calculation of ECLs, are generally short, with a large part of the loan portfolio having contractual maturities of 12 month or less;
- for example, the carrying amount of Swiss residential mortgage loans would continue to be fully covered or 98% covered by real estate collateral, even if the value of that collateral decreased by 20% or 30%, respectively.

Certain assets reported in stage 2 within the *Private clients with mortgages* and *Real estate financing* segments did not have a comparable rating on origination upon which to base the assessment of whether a significant increase in credit risk (SICR) has occurred. In accordance with the IFRS 9 transition requirements, a lifetime ECL has been recognized for these assets. In the medium term and based on the current economic outlook, UBS expects the proportion of these stage 2 assets to reduce to some extent.

	31.12.19							
	Gross carrying amount (USD million)				ECL coverage (bps)			
Financial instruments measured at amortized cost	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Loans and advances to customers	327,550	309,581	15,661	2,308	23	3	79	2,420
of which: Private clients with mortgages	*132,756*	*124,077*	*7,679*	*1,000*	*8*	*1*	*72*	*406*
of which: Real estate financing	*38,524*	*32,937*	*5,567*	*21*	*11*	*2*	*62*	*1,765*
of which: Large corporate clients	*9,819*	*9,199*	*429*	*192*	*119*	*16*	*100*	*5,088*
of which: SME clients	*12,089*	*9,834*	*1,464*	*791*	*251*	*18*	*104*	*3,420*
of which: Lombard	*112,915*	*112,799*	*0*	*116*	*2*	*0*	*0*	*1,566*
of which: Credit cards	*1,696*	*1,322*	*339*	*35*	*205*	*60*	*404*	*3,718*
of which: Commodity trade finance	*2,925*	*2,831*	*8*	*87*	*278*	*17*	*3*	*8,844*
Other financial assets measured at amortized cost	23,123	21,988	463	672	62	16	274	1,420
of which: Loans to financial advisors	*2,987*	*2,370*	*344*	*272*	*366*	*122*	*305*	*2,570*
Total financial assets measured at amortized cost	577,730	558,544	16,206	2,981	16	2	84	2,198
Financial assets measured at fair value through other comprehensive income	6,345	6,345	0	0	0	0	0	0
Total on-balance sheet financial assets in scope of ECL requirements	584,075	564,888	16,206	2,981	16	2	84	2,198

	Gross exposure (USD million)				ECL coverage (bps)			
Off-balance sheet (in scope of ECL)	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Guarantees	18,142	17,757	304	82	23	4	30	4,032
Irrevocable loan commitments	27,547	27,078	419	50	13	11	120	0
Forward starting reverse repurchase and securities borrowing agreements	1,657	1,657	0	0	0	0	0	0
Committed unconditionally revocable credit lines	35,092	33,848	1,197	46	10	5	143	0
Irrevocable committed prolongation of existing loans	3,289	3,285	0	4	8	8	0	0
Total off-balance sheet financial instruments and other credit lines	85,728	83,626	1,920	182	13	7	120	1,822
Total allowances and provisions					29	9	204	4,020

Note 10 Financial assets at amortized cost and other positions in scope of expected credit loss measurement (continued)

As explained in Note 1a, the assessment of an SICR considers a number of qualitative and quantitative factors to determine if a stage transfer between stage 1 and stage 2 is required. The primary assessment considers changes in probability of default (PD) based on rating analyses and economic outlook. Additionally, UBS considers counterparties that have moved to a credit watch list and those with payments that are 30 days past due.

USD million	ECL allowances / provisions						
Financial instruments measured at amortized cost	Total	Stage 1	Stage 2	*of which: PD layer*	*of which: watch list*	*of which: ≥30 days past due*	Stage 3
Mortgages, business loans and related off-balance sheet commitments in the region Switzerland	723	89	137	*93*	*6*	*38*	497
of which: Private clients with mortgages	*90*	*11*	*53*	*40*	*0*	*13*	*27*
of which: Real estate financing	*59*	*8*	*47*	*36*	*0*	*11*	*4*
of which: Large corporate clients	*57*	*6*	*4*	*0*	*4*	*0*	*47*
of which: SME clients	*310*	*25*	*9*	*6*	*2*	*1*	*276*
of which: Lombard	*3*	*2*	*0*	*0*	*0*	*0*	*1*
of which: Leasing	*42*	*6*	*12*	*11*	*0*	*1*	*24*
of which: Credit cards	*33*	*9*	*11*	*0*	*0*	*11*	*12*
of which: Other	*130*	*23*	*2*	*2*	*0*	*0*	*106*

Derivatives: overview

A derivative is a financial instrument for which the value is derived from one or more variables (underlyings). Underlyings may be indices, foreign currency exchange or interest rates, or the value of shares, commodities, bonds or other financial instruments. A derivative commonly requires little or no initial net investment by either counterparty to the trade.

The majority of derivative contracts are negotiated with respect to notional amounts, tenor, price and settlement mechanisms, as is customary with other financial instruments.

Over-the-counter (OTC) derivative contracts are usually traded under a standardized International Swaps and Derivatives Association (ISDA) master agreement between UBS and its counterparties. Terms are negotiated directly with counterparties and the contracts have industry standard settlement mechanisms prescribed by ISDA. Beginning in 2016, regulators in various jurisdictions began a phased introduction of rules requiring the payment and collection of initial and variation margin on certain OTC derivative contracts, which may have a bearing on their price and other relevant terms. Under the final rules of the Basel Committee on Banking Supervision (BCBS) and the Board of the International Organization of Securities Commissions (IOSCO) promulgated in July 2019, the final phase-in of margin requirements for non-centrally cleared derivatives will be completed on 1 September 2021.

The industry continues to promote the use of central counterparties (CCPs) to clear OTC trades. The trend toward CCP clearing and settlement will generally facilitate the reduction of systemic credit exposures.

Other derivative contracts are standardized in terms of their amounts and settlement dates, and are bought and sold on regulated exchanges. These are commonly referred to as exchange-traded derivatives (ETD) contracts. Exchanges offer the benefits of pricing transparency, standardized daily settlement of changes in value and consequently reduced credit risk.

For presentation purposes, the Group's derivative contracts are subject to IFRS netting provisions. Derivative instruments are measured at fair value and generally classified on the balance sheet as *Derivative financial instruments* within *Assets* when having positive replacement values and *Derivative financial instruments* within *Liabilities* when having negative replacement values. However, ETD that are economically settled on a daily basis and OTC derivatives that are either legally settled or in substance net settled on a daily basis are classified as *Cash collateral receivables on derivative instruments* or *Cash collateral payables on derivative instruments*. Changes in the replacement values of derivatives are recorded in *Other net income from financial instruments measured at fair value through profit or loss,* except for interest on derivatives designated as hedging instruments in effective hedge accounting relationships and forward points on certain short- and long-duration foreign exchange contracts, which are recorded in *Net interest income*.

→ **Refer to Note 1a items 3j and 3k for more information**

→ **Refer to Note 25 for more information about derivative financial assets and liabilities after consideration of netting potential allowed under enforceable netting arrangements**

The Group uses various derivative instruments for both trading and hedging purposes. Derivative product types as well as valuation principles and techniques applied by the Group are described in Note 24. Positive replacement values represent the estimated amount the Group would receive if the derivative contract were sold on the balance sheet date. Negative replacement values indicate the estimated amount the Group would pay to transfer its obligations in respect of the underlying contract were it required or entitled to do so on the balance sheet date.

Derivatives embedded in other financial instruments are not included in the "Derivative instruments" table within this Note. Bifurcated embedded derivatives are presented on the same balance sheet line as the host contract. In cases where UBS applies the fair value option to hybrid instruments, bifurcation of an embedded derivative component is not required and as such this component is also not included in the "Derivative instruments" table.

→ **Refer to Notes 19 and 24 for more information**

Note 11 Derivative instruments (continued)

Risks of derivative instruments

Derivative instruments are transacted in many trading portfolios, which generally include several types of instruments, not just derivatives. The market risk of derivatives is predominantly managed and controlled as an integral part of the market risk of these portfolios. The Group's approach to market risk is described in the audited portions of "Market risk" in the "Risk management and control" section of this report.

Derivative instruments are also transacted with many different counterparties, most of whom are also counterparties for other types of business. The credit risk of derivatives is managed and controlled in the context of the Group's overall credit exposure to its counterparties. The Group's approach to credit risk is described in the audited portions of "Credit risk" in the "Risk management and control" section of this report. It should be noted that, although the derivative financial assets shown on the balance sheet can be an important component of the Group's credit exposure, the positive replacement values related to a respective counterparty are rarely an adequate reflection of the Group's credit exposure in its derivatives business with that counterparty. This is generally the case because, on the one hand, replacement values can increase over time (potential future exposure), while on the other hand, exposure may be mitigated by entering into master netting agreements and bilateral collateral arrangements. Both the exposure measures used internally by the Group to control credit risk and the capital requirements imposed by regulators reflect these additional factors.

→ **Refer to Note 25 for more information about derivative financial assets and liabilities after consideration of netting potential allowed under enforceable netting arrangements**

Note 11 Derivative instruments (continued)

Derivative instruments[1,2]

USD billion	31.12.19 Derivative financial assets	31.12.19 Notional values related to derivative financial assets[3]	31.12.19 Derivative financial liabilities	31.12.19 Notional values related to derivative financial liabilities[3]	31.12.19 Other notional values[3, 4]	31.12.18 Derivative financial assets	31.12.18 Notional values related to derivative financial assets[3]	31.12.18 Derivative financial liabilities	31.12.18 Notional values related to derivative financial liabilities[3]	31.12.18 Other notional values[3, 4]
Interest rate contracts										
Over-the-counter (OTC) contracts										
Forward contracts	0.0	2.8	0.3	5.1	3,136.8	0.0	1.4	0.1	3.1	2,873.9
Swaps	34.3	454.7	26.2	402.9	8,086.0	29.5	459.8	23.5	441.8	7,189.1
Options	8.1	464.8	10.0	486.1		7.6	562.2	9.0	550.0	
Exchange-traded contracts										
Futures					546.9					516.1
Options	0.0	84.4	0.0	66.6	229.5	0.0	27.7	0.0	26.3	199.7
Agency transactions[5]	0.1		0.1			0.0		0.1		
Total	42.6	1,006.6	36.6	960.7	11,999.2	37.1	1,051.1	32.7	1,021.3	10,778.8
Credit derivative contracts										
Over-the-counter (OTC) contracts										
Credit default swaps	1.7	65.0	2.2	66.0		1.7	68.8	2.1	73.2	
Total return swaps	0.3	2.0	0.8	3.3		0.2	3.0	0.6	3.7	
Options and warrants	0.0	3.3	0.0	0.6		0.0	2.7	0.0	1.4	
Total	2.0	70.2	3.0	69.9		1.9	74.5	2.7	78.3	
Foreign exchange contracts										
Over-the-counter (OTC) contracts										
Forward contracts	22.4	935.3	23.4	966.6		20.3	708.7	20.9	731.2	
Interest and currency swaps	22.8	1,573.2	23.8	1,418.5		24.8	1,299.7	24.6	1,203.5	
Options	7.3	660.9	6.8	604.9		8.3	613.8	7.8	577.4	
Exchange-traded contracts										
Futures					1.2					0.4
Options	0.0	4.0	0.0	3.8		0.0	3.6	0.0	5.3	
Agency transactions[5]	0.0		0.0			0.0		0.1		
Total	52.5	3,173.4	54.0	2,993.8	1.2	53.5	2,625.7	53.4	2,517.3	0.4
Equity / index contracts										
Over-the-counter (OTC) contracts										
Forward contracts	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Swaps	4.0	81.3	5.5	96.3		4.7	78.5	5.6	86.3	
Options	5.0	88.6	6.8	144.1		5.5	97.6	7.2	139.6	
Exchange-traded contracts										
Futures					84.9					71.7
Options	7.2	250.4	7.8	294.1	37.2	10.1	232.8	9.0	262.8	34.1
Agency transactions[5]	6.6		5.4			11.2		13.3		
Total	22.8	420.3	25.5	534.5	122.1	31.4	408.9	35.0	488.8	105.9

Table continues on the next page.

Note 11 Derivative instruments (continued)

Derivative instruments (continued)[1,2]

Table continued from the previous page.

	31.12.19					31.12.18				
USD billion	Derivative financial assets	Notional values related to derivative financial assets[3]	Derivative financial liabilities	Notional values related to derivative financial liabilities[3]	Other notional values[3, 4]	Derivative financial assets	Notional values related to derivative financial assets[3]	Derivative financial liabilities	Notional values related to derivative financial liabilities[3]	Other notional values[3, 4]
Commodity contracts										
Over-the-counter (OTC) contracts										
Forward contracts	0.1	4.2	0.2	5.7		0.1	3.2	0.1	3.4	
Swaps	0.4	13.8	0.6	15.1		0.7	15.2	0.4	9.9	
Options	1.0	27.4	0.4	23.6		0.4	18.6	0.3	16.1	
Exchange-traded contracts										
Futures					12.0					8.5
Forward contracts	0.0	5.9	0.0	4.9		0.0	6.6	0.0	5.4	
Options	0.1	4.8	0.1	10.7	0.6	0.1	2.9	0.0	3.7	0.1
Agency transactions[5]	0.3		0.5			0.4		0.7		
Total	1.8	56.1	1.7	60.0	12.6	1.8	46.4	1.5	38.5	8.6
Unsettled purchases of non-derivative financial instruments[6]	0.1	16.6	0.1	6.9		0.2	17.0	0.1	6.0	
Unsettled sales of non-derivative financial instruments[6]	0.1	15.4	0.1	9.7		0.4	15.1	0.2	13.2	
Total derivative instruments, based on IFRS netting[7]	121.8	4,758.6	120.9	4,635.4	12,135.1	126.2	4,238.6	125.7	4,163.4	10,893.6

1 Derivative financial liabilities as of 31 December 2019 include USD 17 million related to derivative loan commitments (31 December 2018: USD 17 million). No notional amounts related to these commitments are included in this table, but they are disclosed in Note 34 under Loan commitments. 2 Includes certain forward starting repurchase and reverse repurchase agreements that are classified as measured at fair value through profit or loss and are recognized within derivative instruments. The fair value of these derivative instruments was not material as of 31 December 2019 or 31 December 2018. No notional amounts related to these instruments are included in this table, but they are disclosed in Note 34 under Forward starting transactions. 3 In cases where derivative financial instruments are presented on a net basis on the balance sheet, the respective notional values of the netted derivative financial instruments are still presented on a gross basis. 4 Other notional values relate to derivatives that are cleared through either a central counterparty or an exchange. The fair value of these derivatives is presented on the balance sheet net of the corresponding cash margin under Cash collateral receivables on derivative instruments and Cash collateral payables on derivative instruments and was not material for all periods presented. 5 Notional values of exchange-traded agency transactions and OTC-cleared transactions entered into on behalf of clients are not disclosed as they have a significantly different risk profile. 6 Changes in the fair value of purchased and sold non-derivative financial instruments between trade date and settlement date are recognized as derivative financial instruments. 7 Financial assets and liabilities are presented net on the balance sheet if UBS has the unconditional and legally enforceable right to offset the recognized amounts, both in the normal course of business and in the event of default, bankruptcy or insolvency of the entity and all of the counterparties, and intends either to settle on a net basis or to realize the asset and settle the liability simultaneously. Refer to Note 25 for more information on netting arrangements.

The notional amount of a derivative is generally the quantity of the underlying instrument on which the derivative contract is based and is the reference against which changes in the value of the derivative are measured. Notional values in themselves are generally not a direct indication of the values that are exchanged between parties, and are therefore not a direct measure of risk or financial exposure but are viewed as an indication of the scale of the different types of derivatives entered into by the Group.

On a notional value basis, approximately 54% of OTC interest rate contracts held as of 31 December 2019 (31 December 2018: 56%) mature within one year, 28% (31 December 2018: 28%) within one to five years and 18% (31 December 2018: 16%) after five years. Notional values of interest rate contracts cleared with a clearing house that qualify for IFRS balance sheet netting or are legally settled on a daily basis are presented under *Other notional values* and are categorized into maturity buckets on the basis of contractual maturities of the cleared underlying derivative contracts.

Derivatives transacted for sales and trading purposes

Most of the Group's derivative transactions relate to sales and trading activities. Sales activities include the structuring and marketing of derivative products to customers to enable them to take, transfer, modify or reduce current or expected risks. Trading activities include market-making to directly support the facilitation and execution of client activity. Market-making involves quoting bid and offer prices to other market participants with the intention of generating revenues based on spread and volume.

Credit derivatives

UBS is an active dealer in the fixed income market, including credit default swaps (CDS) and related products, with respect to a large number of issuers' securities. The primary objectives of these activities are ongoing hedging of trading book exposures and market-making, primarily on behalf of clients.

Market-making activity, which is undertaken within the Investment Bank, consists of buying and selling single-name CDS, index CDS, loan CDS and related referenced cash instruments to facilitate client trading activity. UBS also actively utilizes CDS to economically hedge specific counterparty credit risks in its accrual and traded loan portfolios (including off-balance sheet loan commitments) with the aim of reducing concentrations in individual names, sectors or specific portfolios.

In addition, UBS actively utilizes CDS to economically hedge specific counterparty credit risks in its OTC derivative portfolios, including financial instruments that are designated at fair value through profit or loss.

The tables below provide more information about credit protection bought and sold, including replacement and notional value information by instrument type and counterparty type. The value of protection bought and sold is not, in isolation, a measure of UBS's credit risk. Counterparty relationships are viewed in terms of the total outstanding credit risk, which relates to other instruments in addition to CDS, and in connection with collateral arrangements in place. On a notional value basis, approximately 27% of credit protection bought and sold as of 31 December 2019 matures within one year (31 December 2018: 14%), approximately 63% within one to five years (31 December 2018: 74%) and approximately 10% after five years (31 December 2018: 12%).

Credit derivatives by type of instrument

	Protection bought			Protection sold		
USD billion	Derivative financial assets	Derivative financial liabilities	Notional values	Derivative financial assets	Derivative financial liabilities	Notional values
Single-name credit default swaps	0.3	0.7	37.5	0.8	0.7	38.6
Multi-name index-linked credit default swaps	0.1	0.8	29.3	0.5	0.1	24.9
Multi-name other credit default swaps	0.0	0.0	0.4	0.0	0.0	0.3
Total rate of return swaps	0.2	0.6	3.7	0.1	0.2	1.6
Options and warrants	0.0	0.0	3.8	0.0	0.0	0.1
Total 31 December 2019	0.7	2.1	74.6	1.3	0.9	65.4
of which: credit derivatives related to economic hedges	*0.6*	*1.7*	*56.1*	*0.9*	*0.8*	*45.7*
of which: credit derivatives related to market-making	*0.1*	*0.4*	*18.6*	*0.5*	*0.1*	*19.7*

	Protection bought			Protection sold		
USD billion	Derivative financial assets	Derivative financial liabilities	Notional values	Derivative financial assets	Derivative financial liabilities	Notional values
Single-name credit default swaps	0.6	0.6	43.3	0.5	1.0	44.9
Multi-name index-linked credit default swaps	0.3	0.3	29.1	0.3	0.2	24.4
Multi-name other credit default swaps	0.0	0.0	0.1	0.0	0.0	0.1
Total rate of return swaps	0.2	0.7	4.7	0.0	0.0	2.0
Options and warrants	0.0	0.0	4.1	0.0	0.0	0.1
Total 31 December 2018	1.1	1.6	81.3	0.8	1.2	71.4
of which: credit derivatives related to economic hedges	*0.9*	*1.3*	*59.2*	*0.5*	*1.1*	*48.9*
of which: credit derivatives related to market-making	*0.2*	*0.4*	*22.1*	*0.3*	*0.2*	*22.6*

Note 11 Derivative instruments (continued)

Credit derivatives by counterparty

	Protection bought			Protection sold		
USD billion	Derivative financial assets	Derivative financial liabilities	Notional values	Derivative financial assets	Derivative financial liabilities	Notional values
Broker-dealers	0.1	0.2	10.5	0.2	0.1	9.4
Banks	0.2	0.4	23.6	0.4	0.3	21.5
Central clearing counterparties	0.1	0.9	34.7	0.7	0.2	31.6
Other	0.3	0.7	5.8	0.1	0.3	2.9
Total 31 December 2019	0.7	2.1	74.6	1.3	0.9	65.4

	Protection bought			Protection sold		
USD billion	Derivative financial assets	Derivative financial liabilities	Notional values	Derivative financial assets	Derivative financial liabilities	Notional values
Broker-dealers	0.2	0.1	13.0	0.1	0.2	11.5
Banks	0.4	0.4	29.2	0.3	0.5	25.6
Central clearing counterparties	0.2	0.4	31.9	0.4	0.3	30.8
Other	0.3	0.7	7.2	0.0	0.3	3.5
Total 31 December 2018	1.1	1.6	81.3	0.8	1.2	71.4

UBS's CDS trades are documented using industry standard forms of documentation or equivalent terms documented in a bespoke agreement. The agreements that govern CDS generally do not contain recourse provisions that would enable UBS to recover from third parties any amounts paid out by UBS.

The types of credit events that would require UBS to perform under a CDS contract are subject to agreement between the parties at the time of the transaction. However, nearly all transactions are traded with reference to credit events that are applicable under certain market conventions based on the type of reference entity to which the transaction relates. Applicable credit events according to market conventions include bankruptcy, failure to pay, restructuring, obligation acceleration and repudiation / moratorium.

Contingent collateral features of derivative liabilities

Certain derivative instruments contain contingent collateral or termination features triggered upon a downgrade of the published credit ratings of the Group in the normal course of business. Based on UBS's credit ratings as of 31 December 2019, USD 0.0 billion, USD 0.3 billion and USD 0.8 billion would have been required for contractual obligations related to OTC derivatives in the event of a one-notch, two-notch and three-notch reduction in long-term credit ratings, respectively. In evaluating UBS's liquidity requirements, UBS considers additional collateral or termination payments that would be required in the event of a reduction in UBS's long-term credit ratings, and a corresponding reduction in UBS's short-term ratings.

Note 12 Financial assets and liabilities at fair value held for trading

USD million	31.12.19	31.12.18
Financial assets at fair value held for trading[1]		
Equity instruments	96,787	72,768
Government bills / bonds	11,464	11,161
Investment fund units	8,867	9,716
Corporate and municipal bonds	7,914	6,768
Loans	1,971	3,566
Asset-backed securities	512	392
Total financial assets at fair value held for trading	127,514	104,370
Financial liabilities at fair value held for trading[1]		
Equity instruments	22,734	21,886
Corporate and municipal bonds	3,661	3,530
Government bills / bonds	3,466	2,839
Investment fund units	698	689
Other	32	0
Total financial liabilities at fair value held for trading	30,591	28,943

1 Refer to Note 24c for more information on product type and fair value hierarchy categorization.

Note 13 Financial assets at fair value not held for trading

USD million	31.12.19	31.12.18
Financial assets at fair value not held for trading[1]		
Financial assets for unit-linked investment contracts	27,686	21,446
Corporate and municipal bonds	19,385	17,236
Government bills / bonds	15,790	22,493
Loans	11,438	8,132
Securities financing transactions	6,294	9,937
Auction rate securities	1,536	1,664
Investment fund units	740	710
Equity instruments	559	702
Other	515	369
Total financial assets at fair value not held for trading	83,944	82,690

1 Refer to Note 24c for more information on product type and fair value hierarchy categorization.

Note 14 Financial assets measured at fair value through other comprehensive income

USD million	31.12.19	31.12.18
Financial assets measured at fair value through other comprehensive income[1]		
Debt instruments		
Government and government agencies	6,162	6,463
of which: USA	*5,814*	*6,101*
Banks	178	149
Corporates and other	4	54
Total financial assets measured at fair value through other comprehensive income	6,345	6,667
Unrealized gains – before tax	41	4
Unrealized (losses) – before tax	(25)	(146)
Net unrealized gains / (losses) – before tax	16	(143)
Net unrealized gains / (losses) – after tax	15	(104)

1 Refer to Note 24c for more information on product type and fair value hierarchy categorization. Refer also to Note 10 and Note 23 for more information on expected credit loss measurement.

Note 15 Property, equipment and software

At historical cost less accumulated depreciation

USD million	Owned properties	Leased properties[5]	Leasehold improve-ments	IT hardware and communication equipment	Internally generated software	Purchased software	Other machines and equipment	Projects in progress	2019	2018
Historical cost										
Balance at the end of the previous year	7,679		3,122	1,568	5,173	469	799	1,157	19,966	19,522
Adjustment from adoption of IFRS 16	(20)	3,407		(32)			0		3,354	
Balance at the beginning of the year	7,659	3,407	3,122	1,535	5,173	469	799	1,157	23,321	19,522
Additions	15	345	21	178	73	30	23	1,246	1,931	1,702
Disposals / write-offs[1]	(15)	(22)	(314)	(170)	(28)	(20)	(68)	0	(636)	(849)
Reclassifications	(130)	0	164	0	943	2	41	(1,418)	(398)[4]	(195)
Foreign currency translation	122	14	10	16	15	4	4	28	213	(213)
Balance at the end of the year	7,650	3,745	3,004	1,559	6,176	485	799	1,014	24,431	19,966
Accumulated depreciation										
Balance at the end of the previous year	4,500		1,873	1,077	2,291	316	561		10,619	10,465
Adjustment from adoption of IFRS 16	(1)	29		(28)			0			
Balance at the beginning of the year	4,499	29	1,873	1,049	2,291	316	561	0	10,619	10,465
Depreciation	161	487	194	165	603	56	62	0	1,728	1,153
Impairment[2]	1	2	1	0	30	3	0	0	37	75
Disposals / write-offs[1]	(15)	(2)	(312)	(169)	(28)	(20)	(68)	0	(614)	(840)
Reclassifications	(256)	0	2	0	0	0	0	0	(254)[4]	(124)
Foreign currency translation	75	4	9	9	9	3	3	0	112	(111)
Balance at the end of the year	4,466	519	1,768	1,053	2,906	358	559	0	11,628	10,619
Net book value										
Net book value at the end of the previous year	3,179	0	1,249	491	2,882	153	238	1,157	9,348	9,057
Net book value at the beginning of the year	3,160	3,378	1,249	486	2,882	153	238	1,157	12,702	9,057
Net book value at the end of the year	3,184	3,226	1,236	506	3,270	126	241	1,014[3]	12,804	9,348

1 Includes write-offs of fully depreciated assets. 2 Impairment charges recorded in 2019 generally relate to assets that are no longer used for which the recoverable amount based on a fair value approach was determined to be zero. 3 Consists of USD 787 million related to Internally generated software, USD 126 million related to Owned properties and USD 100 million related to Leasehold improvements. 4 Reflects reclassifications to Properties held for sale. 5 Represents right-of-use assets recognized by UBS as lessee. Includes immaterial leased IT equipment. The total cash outflow for leases during the year was USD 641 million. Interest expense on lease liabilities is included within Interest expense from financial instruments measured at amortized cost and Lease liabilities are included within Other financial liabilities measured at amortized cost. Refer to Notes 3 and 22a, respectively. Also refer to Note 1 for more information about the nature of UBS's leasing activities.

Note 16 Goodwill and intangible assets

Introduction

UBS performs an impairment test on its goodwill assets on an annual basis or when indicators of impairment exist.

UBS considers Asset Management and the Investment Bank, as they are reported in Note 2a, as separate cash-generating units, as that is the level at which the performance of investments (and the related goodwill) is reviewed and assessed by management. The goodwill for Global Wealth Management is separately monitored, and therefore separately considered for impairment, at the level of the two former business divisions Wealth Management and Wealth Management Americas. These business divisions were integrated in 2018 and are referred to in this Note as Global Wealth Management Americas and Global Wealth Management ex Americas.

The impairment test is performed for each cash-generating unit to which goodwill is allocated by comparing the recoverable amount, based on its value-in-use, with the carrying amount of the respective cash-generating unit. An impairment charge is recognized if the carrying amount exceeds the recoverable amount.

As of 31 December 2019, total goodwill recognized on the balance sheet was USD 6.3 billion, of which USD 3.7 billion was carried by the Global Wealth Management Americas cash-generating unit, USD 1.2 billion was carried by the Global Wealth Management ex Americas cash-generating unit and USD 1.4 billion was carried by Asset Management. Based on the impairment testing methodology described below, UBS concluded that the goodwill balances as of 31 December 2019 allocated to these cash-generating units are not impaired.

Impairment of the Investment Bank goodwill

UBS is continuing to realign its Investment Bank and execute on a number of strategic initiatives to drive profitable growth. As a consequence, IAS 36, *Impairment of Assets*, requires UBS to give consideration to the range of possible forecast cash flows and uncertainties in macroeconomic factors that currently exist when determining the recoverability of goodwill in the Investment Bank. Following this, UBS estimated a recoverable amount for the Investment Bank cash-generating unit of USD 11.7 billion. As this was lower than the carrying amount of the Investment Bank cash-generating unit of USD 12.1 billion (actual attributed equity as of 31 December 2019), UBS wrote down the goodwill previously recognized by the Investment Bank (USD 110 million) and recognized that charge in the income statement within *Amortization and impairment of goodwill and intangible assets*.

UBS also reviewed intangible assets, property, equipment and software assets, allocated to the Investment Bank. Overall, UBS confirmed that no further impairment charges were required, with the fair value of such assets (generally determined using a cost replacement approach) being equal to or higher than their respective carrying amounts.

Methodology for goodwill impairment testing

The recoverable amounts are determined using a discounted cash flow model, which has been adapted to use inputs that consider features of the banking business and its regulatory environment. The recoverable amount of a cash-generating unit is the sum of the discounted earnings attributable to shareholders from the first three forecast years and the terminal value, adjusted for the effect of the capital assumed to be needed over the next three years and to support growth beyond this period. The terminal value, which covers all periods beyond the third year, is calculated on the basis of the forecast of third-year profit, the discount rate and the long-term growth rate, as well as the implied perpetual capital growth.

The carrying amount for each cash-generating unit is determined by reference to the Group's equity attribution framework. Within this framework, which is described in the "Capital management" section of this report, UBS attributes equity to the businesses on the basis of their risk-weighted assets and leverage ratio denominator, their goodwill and intangible assets as well as equity directly associated with activity that Corporate Center – Group Treasury manages centrally on behalf of the business divisions. The framework is primarily used for purposes of measuring the performance of the businesses and includes certain management assumptions. Attributed equity equals the capital that a cash-generating unit requires to conduct its business and is currently considered a reasonable approximation of the carrying amount of the cash-generating units. The attributed equity methodology is aligned with the business planning process, the inputs from which are used in calculating the recoverable amounts of the respective cash-generating unit.

→ **Refer to the "Capital management" section of this report for more information about the equity attribution framework**

Assumptions

Valuation parameters used within the Group's impairment test model are linked to external market information, where applicable. The model used to determine the recoverable amount is most sensitive to changes in the forecast earnings available to shareholders in years one to three, to changes in the discount rates and to changes in the long-term growth rate. The applied long-term growth rate is based on long-term economic growth rates for different regions worldwide. Earnings available to shareholders are estimated on the basis of forecast results, which are part of the business plan approved by the Board of Directors.

The discount rates are determined by applying a capital asset pricing model-based approach, as well as considering quantitative and qualitative inputs from both internal and external analysts and the view of management.

Note 16 Goodwill and intangible assets (continued)

In addition, they take into account regional differences in risk-free rates, at the level of individual cash-generating units. Consistently, long-term growth rates are determined based on nominal or real GDP growth rate forecasts, depending on the region.

Key assumptions used to determine the recoverable amounts of each cash-generating unit are tested for sensitivity by applying a reasonably possible change to those assumptions. Forecast earnings available to shareholders were changed by 20%, the discount rates were changed by 1.5 percentage points and the long-term growth rates were changed by 0.75 percentage points. Under all scenarios, reasonably possible changes in key assumptions did not result in an impairment of goodwill or intangible balances reported by Global Wealth Management Americas, Global Wealth Management ex Americas and Asset Management.

If the estimated earnings and other assumptions in future periods deviate from the current outlook, the value of goodwill attributable to Global Wealth Management Americas, Global Wealth Management ex Americas and Asset Management may become impaired in the future, giving rise to losses in the income statement. Recognition of any impairment of goodwill would reduce IFRS equity and net profit. It would not affect cash flows and, as goodwill is required to be deducted from capital under the Basel III capital framework, no effect would be expected on the Group's capital ratios.

Discount and growth rates

	Discount rates		Growth rates	
In %	31.12.19	31.12.18	31.12.19	31.12.18
Global Wealth Management Americas	9.5	9.5	4.2	3.2
Global Wealth Management ex Americas	8.5	8.5	3.4	3.0
Asset Management	9.0	9.0	3.0	2.7
Investment Bank	11.0	11.0	4.0	3.5

	Goodwill	Intangible assets				
USD million	Total	Infrastructure[1]	Customer relationships, contractual rights and other	Total	2019	2018
Historical cost						
Balance at the beginning of the year	6,392	760	865	1,625	8,018	7,888
Additions	0		11	11	11	270
Disposals	(1)		(10)	(10)	(11)	(45)
Write-offs	0		(75)	(75)	(75)	(7)
Foreign currency translation	(9)		(3)	(3)	(12)	(88)
Balance at the end of the year	6,382	760	788	1,548	7,930	8,018
Accumulated amortization and impairment						
Balance at the beginning of the year		691	679	1,371	1,371	1,325
Amortization		38	27	65	65	62
Impairment[2]	110		0	0	110	4
Disposals			(8)	(8)	(8)	(1)
Write-offs			(75)	(75)	(75)	(7)
Foreign currency translation			(2)	(2)	(2)	(12)
Balance at the end of the year	110	730	621	1,351	1,461	1,371
Net book value at the end of the year	6,272	30	167	197	6,469	6,647

1 Consists of the branch network intangible asset recognized in connection with the acquisition of PaineWebber Group, Inc. 2 Impairment charges recorded in 2019 and 2018 relate to assets for which the recoverable amount was determined considering their value-in-use (recoverable amount of the impaired intangible assets in 2018 was USD 18 million, recoverable amount for the Investment Bank cash-generating unit in 2019 was USD 11.7 billion).

Note 16 Goodwill and intangible assets (continued)

The table below presents goodwill and intangible assets by cash-generating unit for the year ended 31 December 2019.

USD million	Global Wealth Management Americas	Global Wealth Management ex Americas	Asset Management	Investment Bank	Corporate Center	Total
Goodwill						
Balance at the beginning of the year	3,721	1,206	1,354	112		6,392
Additions					0	0
Disposals		(1)				(1)
Impairment				(110)		(110)
Foreign currency translation	(2)	(6)	1	(2)	0	(9)
Balance at the end of the year	3,719	1,198	1,354	0	0	6,272
Intangible assets						
Balance at the beginning of the year	138	104	0	11	1	254
Additions / transfers	1			0	10	11
Disposals		(2)		0		(2)
Amortization	(45)	(12)		(5)	(4)	(65)
Impairment		0		0		0
Foreign currency translation	(1)	1	0	0	0	(1)
Balance at the end of the year	92	92	0	5	7	197

The table below presents estimated aggregated amortization expenses for intangible assets.

USD million	Intangible assets
Estimated, aggregated amortization expenses for:	
2020	53
2021	22
2022	18
2023	17
2024	13
Thereafter	70
Not amortized due to indefinite useful life	2
Total	197

Note 17 Other assets

a) Other financial assets measured at amortized cost

USD million	31.12.19	31.12.18
Debt securities	14,141	13,562
of which: government bills / bonds	*8,492*	*8,778*
Loans to financial advisors[1]	2,877	3,291
Fee- and commission-related receivables	1,521	1,643
Finance lease receivables[2]	1,444	1,091
Settlement and clearing accounts	587	1,050
Accrued interest income	742	694
Other	1,669	1,233
Total other financial assets measured at amortized cost	22,980	22,563

1 Related to financial advisors in the US and Canada. 2 Upon adoption of IFRS 16 on 1 January 2019, Finance lease receivables increased by USD 176 million. Refer to Note 1 for more information.

b) Other non-financial assets

USD million	31.12.19	31.12.18
Precious metals and other physical commodities	4,597	4,298
Bail deposit[1]	1,293	1,312
Prepaid expenses	927	990
VAT and other tax receivables	493	334
Properties and other non-current assets held for sale	199	82
Other	346	395
Total other non-financial assets	7,856	7,410

1 Refer to item 1 in Note 21b for more information.

Note 18 Amounts due to banks and customer deposits

USD million	31.12.19	31.12.18
Amounts due to banks	6,570	10,962
Customer deposits	448,284	419,838
of which: demand deposits	*176,010*	*181,869*
of which: retail savings / deposits	*168,581*	*165,790*
of which: time deposits	*62,315*	*53,624*
of which: fiduciary deposits	*41,378*	*18,556*
Total amounts due to banks and customer deposits	454,854	430,801

Note 19 Debt issued designated at fair value

USD million	31.12.19	31.12.18
Issued debt instruments		
Equity-linked[1]	41,722	34,392
Rates-linked	16,318	12,073
Credit-linked	1,916	3,282
Fixed-rate	4,636	5,099
Commodity-linked	1,567	1,785
Other	649	401
of which: debt that contributes to total loss-absorbing capacity	*217*	*0*
Total debt issued designated at fair value	66,809	57,031
of which: issued by UBS AG with original maturity greater than one year[2]	*51,031*	*40,289*
of which: life-to-date own credit (gain) / loss	*92*	*(270)*

1 Includes investment fund unit-linked instruments issued. 2 Issued by the legal entity UBS AG. Based on original contractual maturity without considering any early redemption features. More than 99% of the balance as of 31 December 2019 was unsecured (31 December 2018: more than 99% of the balance was unsecured).

As of 31 December 2019 and 31 December 2018, the contractual redemption amount at maturity of debt issued designated at fair value through profit or loss was not materially different from the carrying amount.

The table below shows the residual contractual maturity of the carrying amount of debt issued designated at fair value, split between fixed-rate and floating-rate instruments based on the contractual terms, and does not consider any early redemption features. Interest rate ranges for future interest payments related to debt issued designated at fair value have not been included in the table below as a majority of the debt instruments issued are structured products, and therefore the future interest payments are highly dependent upon the embedded derivative and prevailing market conditions at the point in time that each interest payment is made.

→ **Refer to Note 27 for maturity information on an undiscounted cash flow basis**

Contractual maturity of carrying amount

USD million	2020	2021	2022	2023	2024	2025–2029	Thereafter	Total 31.12.19	Total 31.12.18
UBS Group AG[1]									
Non-subordinated debt									
Fixed-rate	0	0	0	0	0	0	217	217	0
UBS AG[2]									
Non-subordinated debt									
Fixed-rate	3,648	1,778	755	288	334	386	3,178	10,368	11,807
Floating-rate	21,547	10,748	3,435	2,608	3,290	8,109	5,562	55,299	43,562
Subtotal	25,195	12,526	4,190	2,897	3,624	8,495	8,740	65,668	55,370
Other subsidiaries[3]									
Non-subordinated debt									
Fixed-rate	48	92	6	0	0	345	29	520	1,230
Floating-rate	102	43	197	27	0	0	35	404	431
Subtotal	150	134	203	27	0	345	64	924	1,662
Total	25,345	12,661	4,394	2,924	3,624	8,840	9,021	66,809	57,031

1 Comprises instruments issued by the legal entity UBS Group AG. 2 Comprises instruments issued by the legal entity UBS AG. 3 Comprises instruments issued by subsidiaries of UBS AG.

Note 20 Debt issued measured at amortized cost

USD million	31.12.19	31.12.18
Certificates of deposit	5,190	7,980
Commercial paper	14,413	27,514
Other short-term debt	2,235	3,531
Short-term debt[1]	21,837	39,025
Senior unsecured debt that contributes to total loss-absorbing capacity (TLAC)	30,105	29,988
Senior unsecured debt other than TLAC	25,569	33,018
of which: issued by UBS AG with original maturity greater than one year[2]	*22,349*	*32,133*
Covered bonds	2,633	3,947
Subordinated debt	21,775	17,665
of which: high-trigger loss-absorbing additional tier 1 capital instruments	*11,931*	*7,785*
of which: low-trigger loss-absorbing additional tier 1 capital instruments	*2,414*	*2,369*
of which: low-trigger loss-absorbing tier 2 capital instruments	*6,892*	*6,808*
of which: non-Basel III-compliant tier 2 capital instruments	*540*	*703*
Debt issued through the Swiss central mortgage institutions	8,574	8,569
Other long-term debt	4	58
of which: issued by UBS AG with original maturity greater than one year[2]	*0*	*52*
Long-term debt[3]	88,660	93,246
Total debt issued measured at amortized cost[4]	110,497	132,271

1 Debt with an original contractual maturity of less than one year. 2 Issued by the legal entity UBS AG. Based on original contractual maturity without considering any early redemption features. As of 31 December 2019, 100% of the balance was unsecured (31 December 2018: 100% of the balance was unsecured). 3 Debt with an original maturity greater than or equal to one year. The classification of debt issued into short-term and long-term does not consider any early redemption features. 4 Net of bifurcated embedded derivatives, the fair value of which was not material for the periods presented.

The Group uses interest rate and foreign exchange derivatives to manage the risks inherent in certain debt instruments held at amortized cost. In certain cases, the Group applies hedge accounting for interest rate risk as discussed in Note 1a item 3j and Note 28. As a result of applying hedge accounting, the life-to-date adjustment to the carrying amount of debt issued was an increase of USD 1,099 million as of 31 December 2019 and a decrease of USD 298 million as of 31 December 2018, reflecting changes in fair value due to interest rate movements.

Note 20 Debt issued measured at amortized cost (continued)

Subordinated debt consists of unsecured debt obligations that are contractually subordinated in right of payment to all other present and future non-subordinated obligations of the respective issuing entity. All of the subordinated debt instruments outstanding as of 31 December 2019 pay a fixed rate of interest.

The table below shows the residual contractual maturity of the carrying amount of debt issued, split between fixed-rate and floating-rate based on the contractual terms, and does not consider any early redemption features. The effects from interest rate swaps, which are used to hedge various fixed-rate debt issuances by changing the repricing characteristics into those similar to floating-rate debt, are also not considered in the table below.

→ **Refer to Note 27 for maturity information on an undiscounted cash flow basis**

Contractual maturity of carrying amount

USD million	2020	2021	2022	2023	2024	2025–2029	Thereafter	Total 31.12.19	Total 31.12.18
UBS Group AG[1]									
Non-subordinated debt									
Fixed-rate	1,442	1,943	3,720	4,008	3,890	10,832	1,471	27,306[4]	0
Floating-rate	299	1,001	2,462	2,249	0	0	0	6,012[4]	0
Subordinated debt									
Fixed-rate	0	0	0	0	0	0	14,344	14,344[4]	0
Subtotal	1,741	2,944	6,182	6,257	3,890	10,832	15,815	47,662	0
UBS AG[2]									
Non-subordinated debt									
Fixed-rate	24,334	3,978	2,618	1,621	0	0	1,145	33,696	40,108
Floating-rate	10,819	1,932	0	368	0	0	0	13,119	35,035
Subordinated debt									
Fixed-rate	0	0	2,007	0	2,597	2,827	0	7,431	7,511
Subtotal	35,153	5,910	4,626	1,989	2,597	2,827	1,145	54,247	82,654
Other subsidiaries[3]									
Non-subordinated debt									
Fixed-rate	758	1,029	851	951	1,013	3,327	660	8,588	33,529[4]
Floating-rate	0	0	0	0	0	0	0	0	5,933[4]
Subordinated debt									
Fixed-rate	0	0	0	0	0	0	0	0	10,154[4]
Subtotal	758	1,029	851	951	1,013	3,327	660	8,588	49,616
Total	37,651	9,883	11,659	9,197	7,500	16,987	17,620	110,497	132,271

1 Comprises debt issued by the legal entity UBS Group AG. 2 Comprises debt issued by the legal entity UBS AG. 3 Comprises debt issued by other direct subsidiaries of UBS Group AG and by subsidiaries of UBS AG. 4 TLAC and additional tier 1 capital instruments were originally issued by UBS Group Funding (Switzerland) AG, the issuer was replaced by UBS Group AG in 2019.

Note 21 Provisions and contingent liabilities

a) Provisions

The table below presents an overview of total provisions.

USD million	31.12.19	31.12.18
Provisions other than provisions for expected credit losses	2,861	3,377
Provisions for expected credit losses	114	116
Total provisions	2,974	3,494

The following table presents additional information for provisions other than provisions for expected credit losses.

USD million	Operational risks[2]	Litigation, regulatory and similar matters[3]	Restructuring	Real estate	Employee benefits[6]	Other	Total 2019	Total 2018
Balance at the end of the previous year	46	2,827	224	131	70	78	3,377	3,180
Adjustment from adoption of IFRS 16[1]	0	0	(103)	(29)	0	0	(132)	0
Balance at the beginning of the year	46	2,827	121	102	70	78	3,245	3,180
Additions from acquired companies	0	0	0	0	0	0	0	2
Increase in provisions recognized in the income statement	15	258	105	4	6	16	404	1,155
Release of provisions recognized in the income statement	0	(81)	(22)	0	(7)	(12)	(123)	(311)
Provisions used in conformity with designated purpose	(16)	(518)	(99)	(7)	0	(18)	(659)	(628)
Capitalized reinstatement costs	0	0	0	1	0	0	1	1
Foreign currency translation / unwind of discount	(1)	(12)	1	1	1	1	(8)	(21)
Balance at the end of the year	44	2,475	106[4]	100[5]	70	66	2,861	3,377

1 Refer to Note 1 for more information. 2 Comprises provisions for losses resulting from security risks and transaction processing risks. 3 Comprises provisions for losses resulting from legal, liability and compliance risks. 4 Primarily consists of personnel-related restructuring provisions of USD 40 million as of 31 December 2019 (31 December 2018: USD 50 million) and provisions for onerous contracts of USD 61 million as of 31 December 2019 (31 December 2018: USD 170 million). 5 Consists of reinstatement costs for leasehold improvements of USD 89 million as of 31 December 2019 (31 December 2018: USD 89 million) and provisions for onerous contracts of USD 11 million as of 31 December 2019 (31 December 2018: USD 42 million). 6 Includes provisions for sabbatical and anniversary awards.

Restructuring provisions primarily relate to onerous contracts and severance payments. Onerous contracts for property are recognized when UBS is committed to pay for non-lease components, such as utilities, when a property is vacated or not fully recovered from sub-tenants. Severance-related provisions are used within a short time period, usually within six months, but potential changes in amount may be triggered when natural staff attrition reduces the number of people affected by a restructuring event and therefore the estimated costs.

Information about provisions and contingent liabilities in respect of litigation, regulatory and similar matters, as a class, is included in Note 21b. There are no material contingent liabilities associated with the other classes of provisions.

b) Litigation, regulatory and similar matters

The Group operates in a legal and regulatory environment that exposes it to significant litigation and similar risks arising from disputes and regulatory proceedings. As a result, UBS (which for purposes of this Note may refer to UBS Group AG and/or one or more of its subsidiaries, as applicable) is involved in various disputes and legal proceedings, including litigation, arbitration, and regulatory and criminal investigations.

Such matters are subject to many uncertainties, and the outcome and the timing of resolution are often difficult to predict, particularly in the earlier stages of a case. There are also situations where the Group may enter into a settlement agreement. This may occur in order to avoid the expense, management distraction or reputational implications of continuing to contest liability, even for those matters for which the Group believes it should be exonerated. The uncertainties inherent in all such matters affect the amount and timing of any potential outflows for both matters with respect to which provisions have been established and other contingent liabilities. The Group makes provisions for such matters brought against it when, in the opinion of management after seeking legal advice, it is more likely than not that the Group has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required, and the amount can be reliably estimated. Where these factors are otherwise satisfied, a provision may be established for claims that have not yet been asserted against the Group, but are nevertheless expected to be, based on the Group's experience with similar asserted claims. If any of those conditions is not met, such matters result in contingent liabilities. If the amount of an obligation cannot be reliably estimated, a liability exists that is not recognized even if an outflow of resources is probable. Accordingly, no provision is established even if the potential outflow of resources with respect to such matters could be significant. Developments relating to a matter that occur after the relevant reporting period, but prior to the issuance of financial statements, which affect management's assessment of the provision for such matter (because, for example, the developments provide evidence of conditions that existed at the end of the reporting period), are adjusting events after the reporting period under IAS 10 and must be recognized in the financial statements for the reporting period.

Specific litigation, regulatory and other matters are described below, including all such matters that management considers to be material and others that management believes to be of significance due to potential financial, reputational and other effects. The amount of damages claimed, the size of a transaction or other information is provided where available and appropriate in order to assist users in considering the magnitude of potential exposures.

Note 21 Provisions and contingent liabilities (continued)

In the case of certain matters below, we state that we have established a provision, and for the other matters, we make no such statement. When we make this statement and we expect disclosure of the amount of a provision to prejudice seriously our position with other parties in the matter because it would reveal what UBS believes to be the probable and reliably estimable outflow, we do not disclose that amount. In some cases we are subject to confidentiality obligations that preclude such disclosure. With respect to the matters for which we do not state whether we have established a provision, either (a) we have not established a provision, in which case the matter is treated as a contingent liability under the applicable accounting standard; or (b) we have established a provision but expect disclosure of that fact to prejudice seriously our position with other parties in the matter because it would reveal the fact that UBS believes an outflow of resources to be probable and reliably estimable.

With respect to certain litigation, regulatory and similar matters for which we have established provisions, we are able to estimate the expected timing of outflows. However, the aggregate amount of the expected outflows for those matters for which we are able to estimate expected timing is immaterial relative to our current and expected levels of liquidity over the relevant time periods.

The aggregate amount provisioned for litigation, regulatory and similar matters as a class is disclosed in the "Provisions" table in Note 21a above. It is not practicable to provide an aggregate estimate of liability for our litigation, regulatory and similar matters as a class of contingent liabilities. Doing so would require us to provide speculative legal assessments as to claims and proceedings that involve unique fact patterns or novel legal theories, that have not yet been initiated or are at early stages of adjudication, or as to which alleged damages have not been quantified by the claimants. Although we therefore cannot provide a numerical estimate of the future losses that could arise from litigation, regulatory and similar matters, we believe that the aggregate amount of possible future losses from this class that are more than remote substantially exceeds the level of current provisions.

Litigation, regulatory and similar matters may also result in non-monetary penalties and consequences. For example, the non-prosecution agreement described in item 5 of this Note, which we entered into with the US Department of Justice (DOJ), Criminal Division, Fraud Section in connection with our submissions of benchmark interest rates, including, among others, the British Bankers' Association London Interbank Offered Rate (LIBOR), was terminated by the DOJ based on its determination that we had committed a US crime in relation to foreign exchange matters. As a consequence, UBS AG pleaded guilty to one count of wire fraud for conduct in the LIBOR matter, paid a fine and was subject to probation, which ended in early January 2020.

A guilty plea to, or conviction of, a crime could have material consequences for UBS. Resolution of regulatory proceedings may require us to obtain waivers of regulatory disqualifications to maintain certain operations, may entitle regulatory authorities to limit, suspend or terminate licenses and regulatory authorizations, and may permit financial market utilities to limit, suspend or terminate our participation in such utilities. Failure to obtain such waivers, or any limitation, suspension or termination of licenses, authorizations or participations, could have material consequences for UBS.

The risk of loss associated with litigation, regulatory and similar matters is a component of operational risk for purposes of determining our capital requirements. Information concerning our capital requirements and the calculation of operational risk for this purpose is included in the "Capital management" section of this report.

Provisions for litigation, regulatory and similar matters by business division and in Corporate Center[1]

USD million	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Corporate Center	Total 2019	Total 2018
Balance at the beginning of the year	1,003	117	0	269	1,438	2,827	2,508
Increase in provisions recognized in the income statement	188	1	0	60	10	258	905
Release of provisions recognized in the income statement	(49)	0	0	(6)	(27)	(81)	(220)
Provisions used in conformity with designated purpose	(350)	(4)	0	(66)	(97)	(518)	(350)
Foreign currency translation / unwind of discount	(10)	(1)	0	(2)	0	(12)	(16)
Balance at the end of the year	782	113	0	255	1,325	2,475	2,827

1 Provisions, if any, for the matters described in this Note are recorded in Global Wealth Management (items 3, item 4 and item 7) and Corporate Center (item 2). Provisions, if any, for the matters described in items 1 and 6 of this disclosure are allocated between Global Wealth Management and Personal & Corporate Banking, and provisions, if any, for the matters described in this disclosure in item 5 are allocated between the Investment Bank and Corporate Center.

1. Inquiries regarding cross-border wealth management businesses

Tax and regulatory authorities in a number of countries have made inquiries, served requests for information or examined employees located in their respective jurisdictions relating to the cross-border wealth management services provided by UBS and other financial institutions. It is possible that the implementation of automatic tax information exchange and other measures relating to cross-border provision of financial services could give rise to further inquiries in the future. UBS has received disclosure orders from the Swiss Federal Tax Administration (FTA) to transfer information based on requests for international administrative assistance in tax matters. The requests concern a number of UBS account numbers pertaining to current and former clients and are based on data from 2006 and 2008. UBS has taken steps to inform affected clients about the administrative assistance proceedings and their procedural rights, including the right to appeal. The requests are based on data received from the German authorities, who seized certain data related to UBS clients booked in Switzerland during their investigations and have apparently shared this data with other European countries. UBS expects additional countries to file similar requests.

The Swiss Federal Administrative Court ruled in 2016 that, in the administrative assistance proceedings related to a French bulk request, UBS has the right to appeal all final FTA client data disclosure orders. On 30 July 2018, the Swiss Federal Administrative Court granted UBS's appeal by holding the French administrative assistance request inadmissible. The FTA filed a final appeal with the Swiss Federal Supreme Court. On 26 July 2019, the Supreme Court reversed the decision of the Federal Administrative Court. In December 2019, the court released its written decision. The decision requires the FTA to obtain confirmation from the French authorities that transmitted data will be used only for the purposes stated in their request before transmitting any data. The stated purpose of the original request was to obtain information relating to taxes owed by account holders. Accordingly, any information transferred to the French authorities must not be passed to criminal authorities or used in connection with the ongoing case against UBS discussed in this item.

Since 2013, UBS (France) S.A., UBS AG and certain former employees have been under investigation in France for alleged complicity in unlawful solicitation of clients on French territory, regarding the laundering of proceeds of tax fraud, and banking and financial solicitation by unauthorized persons. In connection with this investigation, the investigating judges ordered UBS AG to provide bail ("caution") of EUR 1.1 billion and UBS (France) S.A. to post bail of EUR 40 million, which was reduced on appeal to EUR 10 million.

A trial in the court of first instance took place from 8 October 2018 until 15 November 2018. On 20 February 2019, the court announced a verdict finding UBS AG guilty of unlawful solicitation of clients on French territory and aggravated laundering of the proceeds of tax fraud, and UBS (France) S.A. guilty of aiding and abetting unlawful solicitation and laundering the proceeds of tax fraud. The court imposed fines aggregating EUR 3.7 billion on UBS AG and UBS (France) S.A. and awarded EUR 800 million of civil damages to the French state. UBS has appealed the decision. Under French law, the judgment is suspended while the appeal is pending. The trial in the Court of Appeal is scheduled for June 2020. The Court of Appeal will retry the case de novo as to both the law and the facts, and the fines and penalties can be greater than or less than those imposed by the court of first instance. A subsequent appeal to the Cour de Cassation, France's highest court, is possible with respect to questions of law.

UBS believes that based on both the law and the facts the judgment of the court of first instance should be reversed. UBS believes it followed its obligations under Swiss and French law as well as the European Savings Tax Directive. Even assuming liability, which it contests, UBS believes the penalties and damage amounts awarded greatly exceed the amounts that could be supported by the law and the facts. In particular, UBS believes the court incorrectly based the penalty on the total regularized assets rather than on any unpaid taxes on those assets for which a fraud has been characterized and further incorrectly awarded damages based on costs that were not proven by the civil party. Notwithstanding that UBS believes it should be acquitted, our balance sheet at 31 December 2019 reflected provisions with respect to this matter in an amount of EUR 450 million (USD 505 million at 31 December 2019). The wide range of possible outcomes in this case contributes to a high degree of estimation uncertainty. The provision reflected on our balance sheet at 31 December 2019 reflects our best estimate of possible financial implications, although it is reasonably possible that actual penalties and civil damages could exceed the provision amount.

In 2016, UBS was notified by the Belgian investigating judge that it is under formal investigation ("inculpé") regarding the laundering of proceeds of tax fraud, of banking and financial solicitation by unauthorized persons, and of serious tax fraud. In 2018, tax authorities and a prosecutor's office in Italy asserted that UBS is potentially liable for taxes and penalties as a result of its activities in Italy from 2012 to 2017. In June 2019, UBS entered into a settlement agreement with the Italian tax authorities under which it paid EUR 101 million to resolve the claims asserted by the authority related to UBS AG's potential permanent establishment in Italy. In October 2019, the Judge of Preliminary Investigations of the Milan Court approved an agreement with the Milan prosecutor under Article 63 of Italian Administrative Law 231 under which UBS AG, UBS Switzerland AG and UBS Monaco have paid an aggregate of EUR 10.3 million to resolve claims premised on the alleged inadequacy of historical internal controls. No admission of wrongdoing was required in connection with this resolution.

Note 21 Provisions and contingent liabilities (continued)

Our balance sheet at 31 December 2019 reflected provisions with respect to matters described in this item 1 in an amount that UBS believes to be appropriate under the applicable accounting standard. As in the case of other matters for which we have established provisions, the future outflow of resources in respect of such matters cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provision that we have recognized.

2. Claims related to sales of residential mortgage-backed securities and mortgages

From 2002 through 2007, prior to the crisis in the US residential loan market, UBS was a substantial issuer and underwriter of US residential mortgage-backed securities (RMBS) and was a purchaser and seller of US residential mortgages. A subsidiary of UBS, UBS Real Estate Securities Inc. (UBS RESI), acquired pools of residential mortgage loans from originators and (through an affiliate) deposited them into securitization trusts. In this manner, from 2004 through 2007, UBS RESI sponsored approximately USD 80 billion in RMBS, based on the original principal balances of the securities issued.

UBS RESI also sold pools of loans acquired from originators to third-party purchasers. These whole loan sales during the period 2004 through 2007 totaled approximately USD 19 billion in original principal balance.

UBS was not a significant originator of US residential loans. A branch of UBS originated approximately USD 1.5 billion in US residential mortgage loans during the period in which it was active from 2006 to 2008 and securitized less than half of these loans.

Lawsuits related to contractual representations and warranties concerning mortgages and RMBS: When UBS acted as an RMBS sponsor or mortgage seller, it generally made certain representations relating to the characteristics of the underlying loans. In the event of a material breach of these representations, UBS was in certain circumstances contractually obligated to repurchase the loans to which the representations related or to indemnify certain parties against losses. In 2012, certain RMBS trusts filed an action in the US District Court for the Southern District of New York seeking to enforce UBS RESI's obligation to repurchase loans in the collateral pools for three RMBS securitizations issued and underwritten by UBS with an original principal balance of approximately USD 2 billion. In July 2018, UBS and the trustee entered into an agreement under which UBS will pay USD 850 million to resolve this matter. A significant portion of this amount will be borne by other parties that indemnified UBS. In January 2020, the settlement was approved by the court. Proceedings to determine how the settlement funds will be distributed to RMBS holders are ongoing. After giving effect to this settlement, UBS considers claims relating to substantially all loan repurchase demands to be resolved and believes that new demands to repurchase US residential mortgage loans are time-barred under a decision rendered by the New York Court of Appeals.

Mortgage-related regulatory matters: Since 2014, the US Attorney's Office for the Eastern District of New York has sought information from UBS pursuant to the Financial Institutions Reform, Recovery and Enforcement Act of 1989 (FIRREA), related to UBS's RMBS business from 2005 through 2007. On 8 November 2018, the DOJ filed a civil complaint in the District Court for the Eastern District of New York. The complaint seeks unspecified civil monetary penalties under FIRREA related to UBS's issuance, underwriting and sale of 40 RMBS transactions in 2006 and 2007. UBS moved to dismiss the civil complaint on 6 February 2019. On 10 December 2019, the district court denied UBS's motion to dismiss.

Our balance sheet at 31 December 2019 reflected a provision with respect to matters described in this item 2 in an amount that UBS believes to be appropriate under the applicable accounting standard. As in the case of other matters for which we have established provisions, the future outflow of resources in respect of this matter cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provision that we have recognized.

3. Madoff

In relation to the Bernard L. Madoff Investment Securities LLC (BMIS) investment fraud, UBS AG, UBS (Luxembourg) S.A. (now UBS Europe SE, Luxembourg branch) and certain other UBS subsidiaries have been subject to inquiries by a number of regulators, including the Swiss Financial Market Supervisory Authority (FINMA) and the Luxembourg Commission de Surveillance du Secteur Financier. Those inquiries concerned two third-party funds established under Luxembourg law, substantially all assets of which were with BMIS, as well as certain funds established in offshore jurisdictions with either direct or indirect exposure to BMIS. These funds faced severe losses, and the Luxembourg funds are in liquidation. The documentation establishing both funds identifies UBS entities in various roles, including custodian, administrator, manager, distributor and promoter, and indicates that UBS employees serve as board members.

In 2009 and 2010, the liquidators of the two Luxembourg funds filed claims against UBS entities, non-UBS entities and certain individuals, including current and former UBS employees, seeking amounts totaling approximately EUR 2.1 billion, which includes amounts that the funds may be held liable to pay the trustee for the liquidation of BMIS (BMIS Trustee).

A large number of alleged beneficiaries have filed claims against UBS entities (and non-UBS entities) for purported losses relating to the Madoff fraud. The majority of these cases have been filed in Luxembourg, where decisions that the claims in eight test cases were inadmissible have been affirmed by the Luxembourg Court of Appeal, and the Luxembourg Supreme Court has dismissed a further appeal in one of the test cases.

In the US, the BMIS Trustee filed claims against UBS entities, among others, in relation to the two Luxembourg funds and one of the offshore funds. The total amount claimed against all defendants in these actions was not less than USD 2 billion. In 2014, the US Supreme Court rejected the BMIS Trustee's motion for leave to appeal decisions dismissing all claims except those for the recovery of approximately USD 125 million of payments alleged to be fraudulent conveyances and preference payments. In 2016, the bankruptcy court dismissed these claims against the UBS entities. In February 2019, the Court of Appeals reversed the dismissal of the BMIS Trustee's remaining claims. In August 2019, the defendants, including UBS, filed a petition to the US Supreme Court requesting that it review the Court of Appeals' decision. The bankruptcy proceedings have been stayed pending a decision with respect to the defendants' petition.

4. Puerto Rico

Declines since 2013 in the market prices of Puerto Rico municipal bonds and of closed-end funds (funds) that are sole-managed and co-managed by UBS Trust Company of Puerto Rico and distributed by UBS Financial Services Incorporated of Puerto Rico (UBS PR) have led to multiple regulatory inquiries, as well as customer complaints and arbitrations with aggregate claimed damages of USD 3.4 billion, of which claims with aggregate claimed damages of USD 2.4 billion have been resolved through settlements, arbitration or withdrawal of the claim. The claims have been filed by clients in Puerto Rico who own the funds or Puerto Rico municipal bonds and/or who used their UBS account assets as collateral for UBS non-purpose loans; customer complaint and arbitration allegations include fraud, misrepresentation and unsuitability of the funds and of the loans.

A shareholder derivative action was filed in 2014 against various UBS entities and current and certain former directors of the funds, alleging hundreds of millions of US dollars in losses in the funds. In 2015, defendants' motion to dismiss was denied and a request for permission to appeal that ruling was denied by the Puerto Rico Supreme Court. In 2014, a federal class action complaint also was filed against various UBS entities, certain members of UBS PR senior management and the co-manager of certain of the funds, seeking damages for investor losses in the funds during the period from May 2008 through May 2014. Following denial of the plaintiffs' motion for class certification, the case was dismissed in October 2018.

In 2014 and 2015, UBS entered into settlements with the Office of the Commissioner of Financial Institutions for the Commonwealth of Puerto Rico, the US Securities and Exchange Commission (SEC) and the Financial Industry Regulatory Authority in relation to their examinations of UBS's operations.

In 2011, a purported derivative action was filed on behalf of the Employee Retirement System of the Commonwealth of Puerto Rico (System) against over 40 defendants, including UBS PR, which was named in connection with its underwriting and consulting services. Plaintiffs alleged that defendants violated their purported fiduciary duties and contractual obligations in connection with the issuance and underwriting of USD 3 billion of bonds by the System in 2008 and sought damages of over USD 800 million. In 2016, the court granted the System's request to join the action as a plaintiff, but ordered that plaintiffs must file an amended complaint. In 2017, the court denied defendants' motion to dismiss the amended complaint.

Beginning in 2015, and continuing through 2017, certain agencies and public corporations of the Commonwealth of Puerto Rico (Commonwealth) defaulted on certain interest payments on Puerto Rico bonds. In 2016, US federal legislation created an oversight board with power to oversee Puerto Rico's finances and to restructure its debt. The oversight board has imposed a stay on the exercise of certain creditors' rights. In 2017, the oversight board placed certain of the bonds into a bankruptcy-like proceeding under the supervision of a Federal District Judge. These events, further defaults or any further legislative action to create a legal means of restructuring Commonwealth obligations or to impose additional oversight on the Commonwealth's finances, or any restructuring of the Commonwealth's obligations, may increase the number of claims against UBS concerning Puerto Rico securities, as well as potential damages sought.

In May 2019, the oversight board filed complaints in Puerto Rico federal district court bringing claims against financial, legal and accounting firms that had participated in Puerto Rico municipal bond offerings, including UBS, seeking a return of underwriting and swap fees paid in connection with those offerings. UBS estimates that it received approximately USD 125 million in fees in the relevant offerings.

In August 2019 and February 2020, three US insurance companies that insured issues of Puerto Rico municipal bonds sued UBS and seven other underwriters of Puerto Rico municipal bonds. The two actions seek recovery of an aggregate of USD 955 million in damages from the defendants. The plaintiffs in these cases claim that defendants failed to reasonably investigate financial statements in the offering materials for the insured Puerto Rico bonds issued between 2002 and 2007, which plaintiffs argue they relied upon in agreeing to insure the bonds notwithstanding that they had no contractual relationship with the underwriters.

Note 21 Provisions and contingent liabilities (continued)

Our balance sheet at 31 December 2019 reflected provisions with respect to matters described in this item 4 in amounts that UBS believes to be appropriate under the applicable accounting standard. As in the case of other matters for which we have established provisions, the future outflow of resources in respect of such matters cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provisions that we have recognized.

5. Foreign exchange, LIBOR and benchmark rates, and other trading practices

Foreign exchange-related regulatory matters: Beginning in 2013, numerous authorities commenced investigations concerning possible manipulation of foreign exchange markets and precious metals prices. In 2014 and 2015, UBS reached settlements with the UK Financial Conduct Authority (FCA) and the US Commodity Futures Trading Commission (CFTC) in connection with their foreign exchange investigations, FINMA issued an order concluding its formal proceedings relating to UBS's foreign exchange and precious metals businesses, and the Board of Governors of the Federal Reserve System (Federal Reserve Board) and the Connecticut Department of Banking issued a Cease and Desist Order and assessed monetary penalties against UBS AG. In 2015, the DOJ's Criminal Division terminated the 2012 non-prosecution agreement with UBS AG related to UBS's submissions of benchmark interest rates, and UBS AG pleaded guilty to one count of wire fraud, paid a fine and was subject to probation, which ended in early January 2020. In 2019 the European Commission announced two decisions with respect to foreign exchange trading. UBS was granted immunity by the European Commission in these matters and therefore was not fined. UBS has ongoing obligations to cooperate with these authorities and to undertake certain remediation measures. UBS has also been granted conditional immunity by the Antitrust Division of the DOJ and by authorities in other jurisdictions in connection with potential competition law violations relating to foreign exchange and precious metals businesses. Investigations relating to foreign exchange matters by certain authorities remain ongoing notwithstanding these resolutions.

Foreign exchange-related civil litigation: Putative class actions have been filed since 2013 in US federal courts and in other jurisdictions against UBS and other banks on behalf of putative classes of persons who engaged in foreign currency transactions with any of the defendant banks. UBS has resolved US federal court class actions relating to foreign currency transactions with the defendant banks and persons who transacted in foreign exchange futures contracts and options on such futures under a settlement agreement that provides for UBS to pay an aggregate of USD 141 million and provide cooperation to the settlement classes. Certain class members have excluded themselves from that settlement and have filed individual actions in US and English courts against UBS and other banks, alleging violations of US and European competition laws and unjust enrichment.

In 2015, a putative class action was filed in federal court against UBS and numerous other banks on behalf of persons and businesses in the US who directly purchased foreign currency from the defendants and alleged co-conspirators for their own end use. In March 2017, the court granted UBS's (and the other banks') motions to dismiss the complaint. The plaintiffs filed an amended complaint in August 2017. In March 2018, the court denied the defendants' motions to dismiss the amended complaint.

In 2017, two putative class actions were filed in federal court in New York against UBS and numerous other banks on behalf of persons and entities who had indirectly purchased foreign exchange instruments from a defendant or co-conspirator in the US, and a consolidated complaint was filed in June 2017. In March 2018, the court dismissed the consolidated complaint. In October 2018, the court granted plaintiffs' motion seeking leave to file an amended complaint. In January 2020, UBS and 11 other banks agreed in principle with the plaintiffs to settle the class action for a total of USD 10 million. The settlement is subject to final documentation and court approval.

LIBOR and other benchmark-related regulatory matters: Numerous government agencies, including the SEC, the CFTC, the DOJ, the FCA, the UK Serious Fraud Office, the Monetary Authority of Singapore, the Hong Kong Monetary Authority, FINMA, various state attorneys general in the US and competition authorities in various jurisdictions, have conducted investigations regarding potential improper attempts by UBS, among others, to manipulate LIBOR and other benchmark rates at certain times. UBS reached settlements or otherwise concluded investigations relating to benchmark interest rates with the investigating authorities. UBS has ongoing obligations to cooperate with the authorities with whom we have reached resolutions and to undertake certain remediation measures with respect to benchmark interest rate submissions. UBS has been granted conditional leniency or conditional immunity from authorities in certain jurisdictions, including the Antitrust Division of the DOJ and the Swiss Competition Commission (WEKO), in connection with potential antitrust or competition law violations related to certain rates. However, UBS has not reached a final settlement with WEKO, as the Secretariat of WEKO has asserted that UBS does not qualify for full immunity.

LIBOR and other benchmark-related civil litigation: A number of putative class actions and other actions are pending in the federal courts in New York against UBS and numerous other banks on behalf of parties who transacted in certain interest rate benchmark-based derivatives. Also pending in the US and in other jurisdictions are a number of other actions asserting losses related to various products whose interest rates were linked to LIBOR and other benchmarks, including adjustable rate mortgages, preferred and debt securities, bonds pledged as collateral, loans, depository accounts, investments and other interest-bearing instruments. The complaints allege manipulation, through various means, of certain benchmark interest rates, including USD LIBOR, Euroyen TIBOR, Yen LIBOR, EURIBOR, CHF LIBOR, GBP LIBOR, SGD SIBOR and SOR and Australian BBSW, and seek unspecified compensatory and other damages under varying legal theories.

USD LIBOR class and individual actions in the US: In 2013 and 2015, the district court in the USD LIBOR actions dismissed, in whole or in part, certain plaintiffs' antitrust claims, federal racketeering claims, CEA claims, and state common law claims. Although the Second Circuit vacated the district court's judgment dismissing antitrust claims, the district court again dismissed antitrust claims against UBS in 2016. Certain plaintiffs have appealed that decision to the Second Circuit. Separately, in 2018, the Second Circuit reversed in part the district court's 2015 decision dismissing certain individual plaintiffs' claims and certain of these actions are now proceeding. UBS entered into an agreement in 2016 with representatives of a class of bondholders to settle their USD LIBOR class action. The agreement has received preliminary court approval and remains subject to final approval. In 2018, the district court denied plaintiffs' motions for class certification in the USD class actions for claims pending against UBS, and plaintiffs sought permission to appeal that ruling to the Second Circuit. In July 2018, the Second Circuit denied the petition to appeal of the class of USD lenders and in November 2018 denied the petition of the USD exchange class. In December 2019, UBS entered into an agreement with representatives of the class of USD lenders to settle their USD LIBOR class action. The agreement has received preliminary court approval and remains subject to final approval. In January 2019, a putative class action was filed in the District Court for the Southern District of New York against UBS and numerous other banks on behalf of US residents who, since 1 February 2014, directly transacted with a defendant bank in USD LIBOR instruments. The complaint asserts antitrust claims. The defendants moved to dismiss the complaint in August 2019.

Other benchmark class actions in the US: In 2014, the court in one of the Euroyen TIBOR lawsuits dismissed certain of the plaintiffs' claims, including a federal antitrust claim, for lack of standing. In 2015, this court dismissed the plaintiffs' federal racketeering claims on the same basis and affirmed its previous dismissal of the plaintiffs' antitrust claims against UBS. In 2017, this court also dismissed the other Yen LIBOR / Euroyen TIBOR action in its entirety on standing grounds, as did the court in the CHF LIBOR action. Also in 2017, the court in the EURIBOR lawsuit dismissed the case as to UBS and certain other foreign defendants for lack of personal jurisdiction. Plaintiffs in the other Yen LIBOR, Euroyen TIBOR and the EURIBOR actions have appealed the dismissals. In October 2018, the court in the SIBOR / SOR action dismissed all but one of plaintiffs' claims against UBS. Plaintiffs in the CHF LIBOR and SIBOR / SOR actions filed amended complaints following the dismissals, and the courts granted renewed motions to dismiss in July 2019 (SIBOR / SOR) and in September 2019 (CHF LIBOR). Plaintiffs in both actions have appealed. In November 2018, the court in the BBSW lawsuit dismissed the case as to UBS and certain other foreign defendants for lack of personal jurisdiction. Following that dismissal, plaintiffs in the BBSW action filed an amended complaint in April 2019, which UBS and other defendants named in the amended complaint have moved to dismiss. In February 2020, the court in the BBSW action granted in part and denied in part defendants' motions to dismiss the amended complaint. The court dismissed the GBP LIBOR action in August 2019, and plaintiffs appealed the dismissal in September 2019.

Government bonds: Putative class actions have been filed since 2015 in US federal courts against UBS and other banks on behalf of persons who participated in markets for US Treasury securities since 2007. A consolidated complaint was filed in 2017 in the US District Court for the Southern District of New York alleging that the banks colluded with respect to, and manipulated prices of, US Treasury securities sold at auction and in the secondary market and asserting claims under the antitrust laws and for unjust enrichment. Defendants' motions to dismiss the consolidated complaint are pending. Similar class actions have been filed concerning European government bonds and other government bonds.

UBS and reportedly other banks are responding to investigations and requests for information from various authorities regarding government bond trading practices. As a result of its review to date, UBS has taken appropriate action.

Government sponsored entities (GSE) bonds: Starting in February 2019, class action complaints were filed in the US District Court for the Southern District of New York against UBS and other banks on behalf of plaintiffs who traded GSE bonds. A consolidated complaint was filed alleging collusion in GSE bond trading between 1 January 2009 and 1 January 2016. In December 2019, UBS and eleven other defendants agreed to settle the class action for a total of USD 250 million. The settlement is subject to court approval.

Note 21 Provisions and contingent liabilities (continued)

With respect to additional matters and jurisdictions not encompassed by the settlements and orders referred to above, our balance sheet at 31 December 2019 reflected a provision in an amount that UBS believes to be appropriate under the applicable accounting standard. As in the case of other matters for which we have established provisions, the future outflow of resources in respect of such matters cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provision that we have recognized.

6. Swiss retrocessions

The Federal Supreme Court of Switzerland ruled in 2012, in a test case against UBS, that distribution fees paid to a firm for distributing third-party and intra-group investment funds and structured products must be disclosed and surrendered to clients who have entered into a discretionary mandate agreement with the firm, absent a valid waiver.

FINMA has issued a supervisory note to all Swiss banks in response to the Supreme Court decision. UBS has met the FINMA requirements and has notified all potentially affected clients.

The Supreme Court decision has resulted, and may continue to result, in a number of client requests for UBS to disclose and potentially surrender retrocessions. Client requests are assessed on a case-by-case basis. Considerations taken into account when assessing these cases include, among other things, the existence of a discretionary mandate and whether or not the client documentation contained a valid waiver with respect to distribution fees.

Our balance sheet at 31 December 2019 reflected a provision with respect to matters described in this item 6 in an amount that UBS believes to be appropriate under the applicable accounting standard. The ultimate exposure will depend on client requests and the resolution thereof, factors that are difficult to predict and assess. Hence, as in the case of other matters for which we have established provisions, the future outflow of resources in respect of such matters cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provision that we have recognized.

7. Securities transaction pricing and disclosure

UBS identified and reported to the relevant authorities instances in which some Global Wealth Management clients booked in Hong Kong and Singapore may have been charged inappropriate spreads on debt securities transactions between 2008 and 2015. In November 2019, UBS AG entered into a settlement with the Hong Kong Securities and Futures Commission (SFC) under which it was reprimanded and fined HKD 400 million (USD 51 million) and a settlement with the Monetary Authority of Singapore (MAS) under which it was fined SGD 11 million (USD 8.3 million). In addition, UBS has commenced reimbursing affected customers an aggregate amount equivalent to USD 47 million, including interest.

Our balance sheet at 31 December 2019 reflected a provision with respect to the matter described in this item 7 in an amount that UBS believes to be appropriate under the applicable accounting standard.

Note 22 Other liabilities

a) Other financial liabilities measured at amortized cost

USD million	31.12.19	31.12.18
Other accrued expenses	1,928	2,192
Accrued interest expenses	1,562	1,544
Settlement and clearing accounts	1,379	1,486
Lease liabilities[1]	3,943	
Other	900	1,663
Total other financial liabilities measured at amortized cost	9,712	6,885

1 Relates to the adoption of IFRS 16 on 1 January 2019. Refer to Note 1 for more information.

b) Other financial liabilities designated at fair value

USD million	31.12.19	31.12.18
Financial liabilities related to unit-linked investment contracts	28,145	21,679
Securities financing transactions	5,742	9,461
Over-the-counter debt instruments	2,022	2,450
of which: life-to-date own credit (gain) / loss	*(4)*	*(51)*
Other	31	5
Total other financial liabilities designated at fair value[1]	35,940	33,594

1 As of 31 December 2019 and 31 December 2018, the contractual redemption amount at maturity of other financial liabilities designated at fair value through profit or loss was not materially different from the carrying amount.

c) Other non-financial liabilities

USD million	31.12.19	31.12.18
Compensation-related liabilities	6,812	7,278
of which: Deferred Contingent Capital Plan	*1,855*	*1,983*
of which: financial advisor compensation plans	*1,463*	*1,458*
of which: other compensation plans	*2,310*	*2,480*
of which: net defined benefit pension and post-employment liabilities	*633*	*775*
of which: other compensation-related liabilities[1]	*552*	*581*
Current and deferred tax liabilities	1,163	1,002
VAT and other tax payables	475	431
Deferred income	141	215
Other	202	98
Total other non-financial liabilities	8,794	9,022

1 Includes liabilities for payroll taxes and untaken vacation.

Additional information

Note 23 Expected credit loss measurement

a) Expected credit losses in the period

Total net credit loss expenses were USD 78 million in 2019, reflecting net credit loss expenses of USD 100 million related to credit-impaired (stage 3) positions, partly offset by USD 22 million of net releases in expected credit loss expense allowances from stage 1 and 2 positions.

In the Investment Bank, increased stage 1 and 2 ECL allowances and provisions recognized over the year primarily related to loans and credit facilities originated during 2019 and to changes in credit quality of existing assets, partly offset by a change in the applied credit risk models. In Personal & Corporate Banking and Global Wealth Management, ECL allowances and provisions slightly decreased over the year, primarily attributable to a minor improvement in book quality following continued positive developments of selected economic input data.

Stage 3 net losses of USD 100 million were recognized across a number of defaulted positions, mainly in Personal & Corporate Banking (USD 44 million) and, to a lesser extent, in the Investment Bank (USD 26 million) and Global Wealth Management (USD 23 million).

b) Changes to ECL models, scenarios, scenario weights and key inputs

Refer to Note 1a for information about the principles governing ECL models, scenarios, scenario weights and key inputs applied. In addition to the quarterly updates of market and behavioral data, which are relevant input factors to the credit rating methodology and the estimation of the probability of default (PD) and the loss given default (LGD), one significant change was applied to the models used to calculate ECLs for large corporate clients in the Investment Bank. During 2019, the data set was refreshed and aligned with the process applied to regulatory stress testing in the US, which resulted in a net release in expected credit loss expense allowances and provisions from stage 1 and 2 positions of USD 20 million. For portfolios where internal default data is insufficient for modeling purposes, UBS relies on external data providers.

Four scenarios and the related macroeconomic factors were reviewed in the fourth quarter of 2019 in light of the economic and political conditions prevailing at year-end. The selection of the three hypothetical scenarios remained essentially unchanged, although the narrative of the severe downside scenario was updated to include additional risks. The key aspects of the narrative for the scenarios are summarized below.

- The baseline scenario assumes continued growth in all key markets, albeit at a slower rate than in 2019. As a consequence, unemployment rates are not expected to fall noticeably, except in the US. Interest rates remain at low levels in line with the central bank policies pursued in the eurozone, Switzerland and in the US.
- The upside scenario assumes continued accommodative central bank policies in developed economies and a gradual decline of geopolitical and economic uncertainty. Underlying macroeconomic conditions improve, and asset values increase substantially.
- The mild downside scenario is based on a monetary policy tightening assumption, implemented by major central banks to deflate a potential asset price bubble, thus causing a mild recession.
- The narrative for the severe downside scenario, which during 2019 focused primarily on developments in the eurozone, has been broadened to cover a severe recessionary phase affecting all major economies. A wide-ranging slowdown is mainly caused by global trade tensions and debt sustainability concerns in Europe. Trade and business confidence are affected, being particularly felt in the key export markets for Swiss industry.

In each quarter the bases to which scenario-specific forecasts are applied, and the baseline forecast itself, were updated using the most recently available information (key macroeconomic data and relevant market indicators). The key forward-looking macroeconomic variables applied to the four scenarios as of 31 December 2019 are summarized in the table on the following page.

The determination of scenario weights is subject to the process and governance outlined in Note 1a item 3g. An econometric model is used to provide input into the scenario weight assessment process. The model output gives a first estimate of the probability that the GDP assumptions used for each scenario materialize, according to the historically observed deviations of GDP growth from trend growth. Since the probability estimates produced by the model do not include an assessment of the underlying economic or political causes, management positions the model output into the context of current conditions and future expectations, and applies judgment in determining the final scenario weights. The reviews during 2019 reflected the increasing probability of a weakening economy in key markets, after a long spell of substantial expansion, and the uncertainties about the influence that several political developments with unforeseeable outcomes may have on future growth. At year-end 2019, management reflected these developments by giving more weight to the severe downside scenario compared with 31 December 2018.

Non-linearity of credit losses in relation to macroeconomic factors is usually most pronounced in portfolios that are most sensitive to interest rates, especially in the areas of mortgage loans to private clients and real estate financing. The mild downside scenario therefore reflects a significant rise in interest rates as a key component and is also particularly relevant for credit risk management purposes.

As noted above, scenario weights are a reflection of risks identified during management's assessment of economic and geopolitical risks and not a specific expectation that a particular narrative with its defined macroeconomic factors (e.g., interest rates) will materialize. Other scenarios for a mild downside with less focus on interest rates would, however, not have been representative of the potential asymmetry of loan losses in a downturn. A more severe recession can be triggered by political factors that cannot be modeled based on observed history; given this consideration, the weight assigned to the severe downside case was also based on management's assessment of the geopolitical risks that might affect all of our key markets and portfolios.

ECL scenario	Assigned weights in %	
	31.12.19	31.12.18
Upside	7.5	10.0
Baseline	42.5	45.0
Mild downside	35.0	35.0
Severe downside	15.0	10.0

Note 23 Expected credit loss measurement (continued)

	One year				Three years cumulative			
Key parameters	Upside	Baseline	Mild downside	Severe downside	Upside	Baseline	Mild downside	Severe downside
Real GDP growth (% change)								
United States	4.3	1.9	(0.5)	(6.4)	10.9	6.4	0.0	(4.3)
Eurozone	3.6	1.0	(0.3)	(9.1)	9.5	2.8	0.7	(10.8)
Switzerland	4.2	1.5	(0.8)	(7.0)	10.4	4.8	(0.1)	(6.2)
Consumer price index (% change)								
United States	3.1	1.8	4.9	(1.2)	8.6	6.2	11.1	0.4
Eurozone	2.1	1.3	2.8	(1.3)	6.7	4.3	6.2	(1.7)
Switzerland	1.5	0.8	1.8	(1.8)	5.5	2.7	4.2	(1.6)
Unemployment rate (change, percentage points)								
United States	(0.9)	(0.4)	0.3	5.7	(0.9)	(0.5)	0.7	5.6
Eurozone	(1.4)	(0.1)	0.6	5.6	(1.9)	(0.2)	1.0	7.9
Switzerland	(0.3)	0.1	0.5	2.6	(0.8)	0.3	1.2	3.6
Fixed income: 10-year government bonds (change in yields, basis points)								
USD	61.0	0.2	187.5	(100.0)	274.1	10.1	262.5	(75.0)
EUR	65.0	8.4	112.5	(30.0)	221.7	28.2	225.0	(20.0)
CHF	73.0	9.5	187.5	(70.0)	283.0	30.0	262.5	(35.0)
Equity indices (% change)								
S&P 500	14.8	3.5	(20.3)	(53.0)	42.7	9.5	(23.5)	(42.9)
EuroStoxx 50	17.0	0.5	(15.5)	(60.0)	44.3	4.4	(14.7)	(52.9)
SPI	13.9	1.4	(19.0)	(56.2)	42.2	5.3	(24.0)	(46.8)
Swiss real estate (% change)								
Single-Family Homes	4.5	0.1	(7.3)	(15.2)	14.1	2.3	(15.8)	(27.0)
Other real estate (% change)								
United States (S&P/Case-Shiller)	6.2	4.0	(4.0)	(13.3)	17.7	16.7	(11.9)	(23.4)
Eurozone (House Price Index)	4.9	1.2	(1.2)	(23.0)	15.4	2.2	(6.8)	(33.2)

c) Development of ECL allowances and provisions

The ECL allowances and provisions recognized in the period are impacted by a variety of factors, such as:

- origination of new instruments during the period;
- effect of passage of time as the ECLs on an instrument for the remaining lifetime reduces (all other factors remaining the same);
- discount unwind within ECLs as it is measured on a present value basis;
- derecognition of instruments in the period;
- change in individual asset quality of instruments;
- portfolio effect of updating forward-looking scenarios and the respective weights;
- movements from a "maximum 12-month ECL" to the recognition of "lifetime ECLs" (and vice versa) following transfers between stages 1 and 2;
- movements from stages 1 and 2 to stage 3 (credit-impaired status) when default has become certain and probability of default (PD) increases to 100% (or vice versa);
- changes in credit risk and/or economic forecasting models or updates to model parameters; and
- foreign exchange translations for assets denominated in foreign currencies and other movements.

Note 23 Expected credit loss measurement (continued)

The following table explains the changes in the ECL allowances and provisions for on- and off-balance sheet financial instruments and other credit lines in scope of ECL requirements between the beginning and the end of the period due to the factors listed on the previous page.

	Development of ECL allowances and provisions			
USD million	Total	Stage 1	Stage 2	Stage 3
Balance as of 31 December 2018	(1,054)	(176)	(183)	(695)
ECL movements due to stage transfer[1]	0	(96)	103	(8)
Net movement from new and derecognized transactions[2]	(53)	(66)	10	3
of which: Private clients with mortgages	*(1)*	*(4)*	*3*	*0*
of which: Real estate financing	*(3)*	*(5)*	*2*	*0*
of which: Large corporate clients	*(6)*	*(14)*	*8*	*0*
of which: SME clients	*(16)*	*(14)*	*(2)*	*0*
Book quality movements	(52)	141	(97)	(96)
Remeasurements due to stage transfers[3]	(125)	110	(138)	(97)
of which: Private clients with mortgages	*(5)*	*70*	*(74)*	*(1)*
of which: Real estate financing	*5*	*21*	*(16)*	*0*
of which: Large corporate clients	*(45)*	*1*	*(11)*	*(35)*
of which: SME clients	*(64)*	*6*	*(17)*	*(53)*
Remeasurements without stage transfers[4]	73	31	41	1
of which: Private clients with mortgages	*22*	*2*	*30*	*(9)*
of which: Real estate financing	*1*	*0*	*0*	*1*
of which: Large corporate clients	*(24)*	*(10)*	*0*	*(14)*
of which: SME clients	*35*	*9*	*10*	*17*
Model and methodology changes[5]	26	17	9	0
Total ECL movements with profit or loss impact[6]	(78)	(4)	25	(100)
Other allowance and provision movements	105	(1)	(2)	108
Write-offs / recoveries[7]	130	0	0	130
Reclassifications[8]	0	0	0	0
Foreign exchange movements[9]	(8)	(1)	(2)	(4)
Other	(19)	0	0	(18)
Balance as of 31 December 2019	(1,029)	(181)	(160)	(688)

1 Represents ECL allowances and provisions prior to ECL remeasurement due to stage transfer. 2 Represents the increase and decrease in allowances and provisions resulting from financial instruments (including guarantees and facilities) that were newly originated, purchased or renewed and from the final derecognition of loans or facilities on their maturity date or earlier. 3 Represents the remeasurement between 12-month and lifetime ECL due to stage transfers. 4 Represents the change in allowances and provisions related to changes in model inputs or assumptions, including changes in forward-looking macroeconomic conditions, changes in the exposure profile, PD and LGD changes, and unwinding of the time value. 5 Represents the change in the allowances and provisions related to changes in models and methodologies. Refer to Note 23b for more information. 6 Includes ECL movements due to stage transfers, ECL movements from new and derecognized transactions, book quality changes and model and methodology changes. 7 Represents the decrease in allowances and provisions resulting from write-offs of the ECL allowance against the gross carrying amount when all or part of a financial asset is deemed uncollectible or forgiven. 8 Represents reclassifications to Other assets measured at amortized cost. 9 Represents the change in allowances and provisions related to movements in foreign exchange rates.

Note 23 Expected credit loss measurement (continued)

The following table explains the changes in the ECL allowances and provisions for *Loans and advances to customers, Loans to financial advisors* and off-balance sheet financial instruments and other credit lines between the beginning and the end of the period.

	Development of ECL allowances and provisions			
USD million	Total	Stage 1	Stage 2	Stage 3
Balance as of 1 January 2018	(1,117)	(141)	(193)	(783)
ECL movements due to stage transfer[1]	0	(97)	95	2
Net movement from new and derecognized transactions[2]	(10)	(44)	15	19
of which: Private clients with mortgages	*(3)*	*(6)*	*4*	*0*
of which: Real estate financing	*(3)*	*(8)*	*5*	*0*
of which: Large corporate clients	*2*	*(6)*	*1*	*8*
of which: SME clients	*(10)*	*(14)*	*4*	*0*
Book quality movements	(89)	112	(87)	(114)
Remeasurements due to stage transfers[3]	(16)	95	(103)	(7)
of which: Private clients with mortgages	*(11)*	*54*	*(63)*	*(1)*
of which: Real estate financing	*5*	*24*	*(19)*	*0*
of which: Large corporate clients	*(1)*	*0*	*(3)*	*1*
of which: SME clients	*1*	*7*	*(7)*	*0*
Remeasurements without stage transfers[4]	(73)	17	16	(106)
of which: Private clients with mortgages	*(9)*	*2*	*(3)*	*(7)*
of which: Real estate financing	*8*	*4*	*12*	*(8)*
of which: Large corporate clients	*(56)*	*(2)*	*(6)*	*(48)*
of which: SME clients	*(55)*	*9*	*6*	*(70)*
Model and methodology changes[5]	(13)	(2)	(11)	0
Subtotal ECL movements with profit or loss impact[6]	(104)	(30)	11	(86)
Other allowance and provision movements	227	10	1	216
Write-offs / recoveries[7]	200	1	0	199
Reclassifications[8]	25	7	3	15
Foreign exchange movements[9]	8	0	0	8
Other	(6)	2	(1)	(6)
Balance as of 31 December 2018	(1,002)	(162)	(180)	(661)

1 Represents ECL allowances and provisions prior to ECL remeasurement due to stage transfer. 2 Represents the increase and decrease in allowances and provisions resulting from financial instruments (including guarantees and facilities) that were newly originated, purchased or renewed and from the final derecognition of loans or facilities on their maturity date or earlier. 3 Represents the remeasurement between 12-month and lifetime ECL due to stage transfers. 4 Represents the change in allowances and provisions related to changes in model inputs or assumptions, including changes in forward-looking macroeconomic conditions, changes in the exposure profile, PD and LGD changes, and unwinding of the time value. 5 Represents the change in the allowances and provisions related to changes in models and methodologies. 6 UBS has restated ECL movements with profit or loss (P&L) impact to include ECL movements due to stage transfer. This aligns with a change in approach adopted in 2019 to allow for the total ECL P&L impacts by stage to be disclosed, including ECL movements due to stage transfers, ECL movements from new and derecognized transactions, book quality changes, model and methodology changes and foreign exchange rates. 7 Represents the decrease in allowances and provisions resulting from write-offs of the ECL allowance against the gross carrying amount when all or part of a financial asset is deemed uncollectible or forgiven. 8 Represents reclassifications to Other assets measured at amortized cost. 9 Represents the change in allowances and provisions related to movements in foreign exchange rates.

Note 23 Expected credit loss measurement (continued)

d) Maximum exposure to credit risk

The tables on the following pages provide the Group's maximum exposure to credit risk for financial instruments subject to ECL requirements and the respective collateral and other credit enhancements mitigating credit risk for these classes of financial instruments.

The maximum exposure to credit risk includes the carrying amounts of financial instruments recognized on the balance sheet subject to credit risk and the notional amounts for off-balance sheet arrangements. Where information is available, collateral is presented at fair value. For other collateral, such as real estate, a reasonable alternative value is used. Credit enhancements, such as credit derivative contracts and guarantees, are included at their notional amounts. Both are capped at the maximum exposure to credit risk for which they serve as security. The "Risk management and control" section of this report describes management's view of credit risk and the related exposures, which can differ in certain respects from the requirements of IFRS.

Maximum exposure to credit risk

	31.12.19								
		Collateral				Credit enhancements			
USD billion	Maximum exposure to credit risk	Cash collateral received	Collateralized by securities	Secured by real estate	Other collateral[1]	Netting	Credit derivative contracts	Guarantees	Exposure to credit risk after collateral and credit enhancements
Financial assets measured at amortized cost on the balance sheet									
Cash and balances at central banks	107.1								107.1
Loans and advances to banks[2]	12.4		0.0						12.4
Receivables from securities financing transactions	84.2		77.6		5.8				0.8
Cash collateral receivables on derivative instruments[3,4]	23.3					14.4			8.9
Loans and advances to customers[5]	326.8	18.4	101.4	174.7	17.1			1.1	14.0
Other financial assets measured at amortized cost	23.0	0.1	0.4	0.0	1.3				21.1
Total financial assets measured at amortized cost	576.8	18.6	179.4	174.7	24.3	14.4	0.0	1.1	164.4
Financial assets measured at fair value through other comprehensive income – debt	6.3								6.3
Total maximum exposure to credit risk reflected on the balance sheet in scope of ECL	583.2	18.6	179.4	174.7	24.3	14.4	0.0	1.1	170.7
Guarantees[6]	18.1	1.0	3.0	0.1	1.7			2.5	9.8
Loan commitments[6]	27.5	0.2	1.9	1.3	5.8		0.2	0.2	18.0
Forward starting transactions, reverse repurchase and securities borrowing agreements	1.7		1.7						0.0
Committed unconditionally revocable credit lines	35.1	0.3	8.3	4.9	3.6			0.0	17.9
Total maximum exposure to credit risk not reflected on the balance sheet, in scope of ECL	82.3	1.5	14.9	6.3	11.0	0.0	0.2	2.8	45.7

Note 23 Expected credit loss measurement (continued)

Maximum exposure to credit risk (continued)

	31.12.18								
		Collateral				Credit enhancements			Exposure to credit risk after collateral and credit enhancements
USD billion	Maximum exposure to credit risk	Cash collateral received	Collateralized by securities	Secured by real estate	Other collateral[1]	Netting	Credit derivative contracts	Guarantees	
Financial assets measured at amortized cost on the balance sheet									
Cash and balances at central banks	108.4								108.4
Loans and advances to banks[2]	16.9		0.1						16.8
Receivables from securities financing transactions	95.3		92.5		2.5				0.3
Cash collateral receivables on derivative instruments[3,4]	23.6					14.5			9.1
Loans and advances to customers[5]	320.4	17.0	104.4	167.1	16.2		0.0	1.2	14.3
Other financial assets measured at amortized cost	22.6	0.1	0.4	0.0	1.1				20.9
Total financial assets measured at amortized cost	587.1	17.2	197.4	167.2	19.9	14.5	0.0	1.2	169.8
Financial assets measured at fair value through other comprehensive income – debt	6.7								6.7
Total maximum exposure to credit risk reflected on the balance sheet in scope of ECL	593.8	17.2	197.4	167.2	19.9	14.5	0.0	1.2	176.5
Guarantees[6]	18.1	1.3	2.5	0.1	1.2			2.7	10.2
Loan commitments[6]	31.2	0.4	2.8	1.5	5.7		0.2	0.7	19.8
Forward starting transactions, reverse repurchase and securities borrowing agreements	0.9		0.9						0.0
Committed unconditionally revocable credit lines	36.6	1.1	6.5	4.2	3.9				21.0
Total maximum exposure to credit risk not reflected on the balance sheet, in scope of ECL	86.8	2.8	12.7	5.8	10.8	0.0	0.2	3.4	51.0

1 Includes but is not limited to life insurance contracts, inventory, mortgage loans, gold and other commodities. 2 Loans and advances to banks include amounts held with third-party banks on behalf of clients. The credit risk associated with these balances may be borne by those clients. 3 Included within Cash collateral receivables on derivative instruments are margin balances due from exchanges or clearing houses. Some of these margin balances reflect amounts transferred on behalf of clients who retain the associated credit risk. 4 The amount shown in the "Netting" column represents the netting potential not recognized on the balance sheet. Refer to Note 25 for more information. 5 Collateral arrangements generally incorporate a range of collateral, including cash, securities, property and other collateral. 6 The amount shown in the "Guarantees" column largely relates to sub-participations. Refer to Note 34 for more information.

Note 23 Expected credit loss measurement (continued)

e) Financial assets subject to credit risk by rating category

The table below shows the credit quality and the maximum exposure to credit risk based on the Group's internal credit rating system and year-end stage classification. With the transition to IFRS 9, the credit risk rating reflects the Group's assessment of the probability of default of individual counterparties, prior to substitutions. The amounts presented are gross of impairment allowances.

→ **Refer to the "Risk management and control" section of this report for more details regarding the Group's internal grading system**

Financial assets subject to credit risk by rating category

USD million	31.12.19								
Rating category[1]	0–1	2–3	4–5	6–8	9–13	Credit-impaired (defaulted)	Total gross carrying amount	ECL allowances	Net carrying amount (maximum exposure to credit risk)
Financial assets measured at amortized cost									
Cash and balances at central banks	105,195	1,873	0	0	0	0	107,068	0	107,068
of which: stage 1	*105,195*	*1,873*	*0*	*0*	*0*	*0*	*107,068*	*0*	*107,068*
Loans and advances to banks	309	9,832	1,326	687	298	1	12,454	(6)	12,447
of which: stage 1	*309*	*9,832*	*1,326*	*677*	*228*	*0*	*12,371*	*(4)*	*12,367*
of which: stage 2	*0*	*0*	*0*	*10*	*71*	*0*	*81*	*(1)*	*80*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*1*	*1*	*(1)*	*0*
Receivables from securities financing transactions	21,089	16,889	14,366	28,815	3,088	0	84,246	(2)	84,245
of which: stage 1	*21,089*	*16,889*	*14,366*	*28,815*	*3,088*	*0*	*84,246*	*(2)*	*84,245*
Cash collateral receivables on derivative instruments	4,899	10,553	5,033	2,765	39	0	23,289	0	23,289
of which: stage 1	*4,899*	*10,553*	*5,033*	*2,765*	*39*	*0*	*23,289*	*0*	*23,289*
Loans and advances to customers	1,744	174,982	59,240	70,528	18,748	2,308	327,550	(764)	326,786
of which: stage 1	*1,744*	*174,328*	*56,957*	*62,435*	*14,117*	*0*	*309,581*	*(82)*	*309,499*
of which: stage 2	*0*	*655*	*2,283*	*8,093*	*4,631*	*0*	*15,661*	*(123)*	*15,538*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*2,308*	*2,308*	*(559)*	*1,749*
Other financial assets measured at amortized cost	13,031	1,560	390	7,158	312	672	23,123	(143)	22,980
of which: stage 1	*13,031*	*1,549*	*381*	*6,747*	*280*	*0*	*21,988*	*(35)*	*21,953*
of which: stage 2	*0*	*11*	*9*	*412*	*32*	*0*	*463*	*(13)*	*451*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*672*	*672*	*(95)*	*576*
Total financial assets measured at amortized cost	146,267	215,690	80,354	109,952	22,485	2,981	577,730	(915)	576,815
On-balance sheet financial instruments									
Financial assets measured at FVOCI – debt instruments	5,854	450	0	41	0	0	6,345	0	6,345
Total on-balance sheet financial instruments	152,120	216,139	80,354	109,994	22,485	2,981	584,075	(915)	583,159

1 Refer to the "Internal UBS rating scale and mapping of external ratings" table in the "Risk management and control" section of this report for more information on rating categories.

Note 23 Expected credit loss measurement (continued)

Off-balance sheet positions subject to expected credit loss by rating category

USD million	31.12.19							
Rating category[1]	0–1	2–3	4–5	6–8	9–13	Credit-impaired (defaulted)	Total carrying amount (maximum exposure to credit risk)	ECL provision
Off-balance sheet financial instruments								
Guarantees	857	4,932	6,060	5,450	761	82	18,142	(42)
of which: stage 1	*857*	*4,931*	*6,048*	*5,218*	*704*	*0*	*17,757*	*(8)*
of which: stage 2	*0*	*1*	*12*	*233*	*57*	*0*	*304*	*(1)*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*82*	*82*	*(33)*
Irrevocable loan commitments	2,548	10,068	4,862	5,859	4,160	50	27,547	(35)
of which: stage 1	*2,548*	*10,068*	*4,862*	*5,722*	*3,878*	*0*	*27,078*	*(30)*
of which: stage 2	*0*	*0*	*0*	*137*	*282*	*0*	*419*	*(5)*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*50*	*50*	*0*
Forward starting reverse repurchase and securities borrowing agreements	0	672	50	936	0	0	1,657	0
Total off-balance sheet financial instruments	3,405	15,672	10,972	12,245	4,922	132	47,347	(77)
Other credit lines								
Committed unconditionally revocable credit lines	632	12,459	6,231	7,169	8,554	46	35,092	(34)
of which: stage 1	*628*	*12,422*	*6,120*	*6,789*	*7,889*	*0*	*33,848*	*(17)*
of which: stage 2	*4*	*37*	*111*	*380*	*665*	*0*	*1,197*	*(17)*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*46*	*46*	*0*
Irrevocable committed prolongation of existing loans	25	1,399	870	633	359	4	3,289	(3)
of which: stage 1	*25*	*1,399*	*870*	*633*	*359*	*0*	*3,285*	*(3)*
of which: stage 2	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*4*	*4*	*0*
Total other credit lines	657	13,858	7,101	7,801	8,913	50	38,381	(37)

1 Refer to the "Internal UBS rating scale and mapping of external ratings" table in the "Risk management and control" section of this report for more information on rating categories.

Note 23 Expected credit loss measurement (continued)

Financial assets subject to credit risk by rating category

USD million	31.12.18								
Rating category[1]	0–1	2–3	4–5	6–8	9–13	Credit-impaired (defaulted)	Total gross carrying amount	ECL allowances	Net carrying amount (maximum exposure to credit risk)
Financial assets measured at amortized cost									
Cash and balances at central banks	103,635	4,735	0	0	0	0	108,370	0	108,370
of which: stage 1	*103,635*	*4,735*	*0*	*0*	*0*	*0*	*108,370*	*0*	*108,370*
Loans and advances to banks	829	13,462	1,347	927	307	3	16,875	(7)	16,868
of which: stage 1	*829*	*13,462*	*1,347*	*763*	*268*	*0*	*16,669*	*(4)*	*16,666*
of which: stage 2	*0*	*0*	*0*	*164*	*39*	*0*	*203*	*(1)*	*202*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*3*	*3*	*(3)*	
Receivables from securities financing transactions	29,065	24,653	13,602	26,865	1,165	0	95,350	(2)	95,349
of which: stage 1	*29,065*	*24,653*	*13,602*	*26,865*	*1,165*	*0*	*95,350*	*(2)*	*95,349*
Cash collateral receivables on derivative instruments	5,136	10,042	5,282	3,040	101	0	23,601	0	23,602
of which: stage 1	*5,136*	*10,042*	*5,282*	*3,040*	*101*	*0*	*23,601*	*0*	*23,602*
Loans and advances to customers	3,642	172,742	52,566	73,863	16,014	2,297	321,124	(772)	320,352
of which: stage 1	*3,621*	*172,002*	*49,277*	*62,305*	*11,111*	*0*	*298,316*	*(69)*	*298,248*
of which: stage 2	*20*	*740*	*3,289*	*11,558*	*4,903*	*0*	*20,510*	*(155)*	*20,357*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*2,297*	*2,297*	*(549)*	*1,748*
Other financial assets measured at amortized cost	13,409	676	313	7,460	274	586	22,718	(155)	22,563
of which: stage 1	*13,409*	*676*	*313*	*7,235*	*272*	*0*	*21,905*	*(43)*	*21,862*
of which: stage 2	*0*	*0*	*0*	*225*	*2*	*0*	*227*	*(4)*	*223*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*586*	*586*	*(109)*	*478*
Total financial assets measured at amortized cost	155,716	226,310	73,110	112,155	17,861	2,886	588,039	(937)	587,104
On-balance sheet financial instruments									
Financial assets measured at FVOCI – debt instruments	3,889	2,702	0	76	0	0	6,667	0	6,667
Total on-balance sheet financial instruments	159,605	229,012	73,110	112,231	17,861	2,886	594,706	(937)	593,771

1 Refer to the "Internal UBS rating scale and mapping of external ratings" table in the "Risk management and control" section of this report for more information on rating categories.

Note 23 Expected credit loss measurement (continued)

Off-balance sheet positions subject to expected credit loss by rating category

USD million	31.12.18							
Rating category[1]	0–1	2–3	4–5	6–8	9–13	Credit-impaired (defaulted)	Total carrying amount (maximum exposure to credit risk)	ECL provision
Off-balance sheet financial instruments								
Guarantees	979	6,673	3,859	5,415	1,006	215	18,147	(43)
of which: stage 1	*978*	*6,670*	*3,849*	*5,012*	*811*		*17,320*	*(7)*
of which: stage 2		*3*	*10*	*402*	*195*	*0*	*610*	*(2)*
of which: stage 3	*0*	*0*	*0*	*0*		*215*	*215*	*(34)*
Irrevocable loan commitments	2,088	11,667	6,519	6,479	4,404	55	31,212	(37)
of which: stage 1	*2,088*	*11,667*	*6,519*	*6,296*	*4,019*	*1*	*30,590*	*(32)*
of which: stage 2	*0*	*0*	*0*	*183*	*385*	*0*	*568*	*(5)*
of which: stage 3	*0*	*0*	*0*	*0*		*53*	*53*	*0*
Forward starting reverse repurchase and securities borrowing agreements	25	510	150	251	0	0	936	0
Total off-balance sheet financial instruments	3,092	18,850	10,528	12,145	5,410	270	50,295	(80)
Other credit lines								
Committed unconditionally revocable credit lines	776	10,899	5,282	11,499	8,084	93	36,633	(35)
of which: stage 1	*768*	*10,871*	*5,152*	*10,727*	*7,603*		*35,121*	*(19)*
of which: stage 2	*8*	*28*	*130*	*772*	*481*	*0*	*1,419*	*(16)*
of which: stage 3	*0*				*0*	*93*	*93*	
Irrevocable committed prolongation of existing loans	27	1,346	889	902	154	21	3,339	(1)
of which: stage 1	*27*	*1,315*	*680*	*701*	*137*	*0*	*2,860*	*(1)*
of which: stage 2	*0*	*31*	*209*	*200*	*17*	*0*	*457*	*0*
of which: stage 3	*0*	*0*	*0*			*21*	*21*	*0*
Total other credit lines	803	12,245	6,171	12,401	8,238	114	39,972	(36)

1 Refer to the "Internal UBS rating scale and mapping of external ratings" table in the "Risk management and control" section of this report for more information on rating categories.

Note 23 Expected credit loss measurement (continued)

f) Credit-impaired financial instruments at amortized cost

The credit risk in the Group's portfolio is actively managed by taking collateral against exposures and by utilizing credit hedging. Collateral held against credit-impaired loan exposures (stage 3) mainly consisted of real estate and securities. It is the Group's policy to dispose of foreclosed real estate as soon as practicable. The carrying amount of foreclosed property recorded in our balance sheet at the end of 2019 and 2018 amounted to USD 86 million and USD 60 million, respectively. The firm seeks to liquidate collateral held in the form of financial assets expeditiously and at prices considered fair. This may require us to purchase assets for our own account, where permitted by law, pending orderly liquidation. Financial assets that are credit-impaired and related collateral held in order to mitigate potential losses are shown in the table below.

USD million	31.12.19			
	Gross carrying amount	Allowance for expected credit losses	Net carrying amount	Collateral / credit enhancements
Loans and advances to banks	1	(1)	0	0
Loans and advances to customers	2,308	(559)	1,749	1,698
of which: Private clients with mortgages	*1,000*	*(41)*	*959*	*959*
of which: Real estate financing	*21*	*(4)*	*17*	*13*
of which: Large corporate clients	*192*	*(98)*	*94*	*77*
of which: SME clients	*791*	*(271)*	*521*	*461*
of which: Lombard	*116*	*(18)*	*98*	*89*
Other financial assets measured at amortized cost	672	(95)	576	22
Total credit-impaired financial assets measured at amortized cost	2,981[1]	(655)[1]	2,326	1,720
Guarantees	82	(33)		10
of which: Large corporate clients	*24*	*(9)*		*8*
of which: SME clients	*58*	*(23)*		*2*
Loan commitments	50	0		12
Committed unconditionally revocable credit lines	46	0		5
Irrevocable committed prolongation of existing loans	4	0		0
Total off-balance sheet financial instruments and other credit lines	182[1]	(33)[1]		27

1 Under IFRS 9, adopted on 1 January 2018, an instrument is classified as credit-impaired if the counterparty is defaulted, and/or the instrument is purchased or originated credit-impaired and includes credit-impaired exposures for which no loss has occurred or no allowance has been recognized (e.g., because they are expected to be fully recoverable through the collateral held).

USD million	31.12.18			
	Gross carrying amount	Allowance for expected credit losses	Net carrying amount	Collateral / credit enhancements
Loans and advances to banks	3	(3)	0	0
Loans and advances to customers	2,297	(549)	1,748	1,654
of which: Private clients with mortgages	*836*	*(39)*	*796*	*796*
of which: Real estate financing	*54*	*(16)*	*38*	*30*
of which: Large corporate clients	*170*	*(82)*	*88*	*79*
of which: SME clients	*888*	*(256)*	*632*	*561*
of which: Lombard	*31*	*(17)*	*14*	*14*
Other financial assets measured at amortized cost	586	(109)	478	12
Total credit-impaired financial assets measured at amortized cost	2,886[1]	(660)[1]	2,226	1,666
Guarantees	215	(34)		84
of which: Large corporate clients	*127*	*(6)*		*79*
of which: SME clients	*77*	*(25)*		*5*
Loan commitments	53	0		8
Committed unconditionally revocable credit lines	93	0		9
Irrevocable committed prolongation of existing loans	22	0		0
Total off-balance sheet financial instruments and other credit lines	383[1]	(34)[1]		102

1 Under IFRS 9, adopted on 1 January 2018, an instrument is classified as credit-impaired if the counterparty is defaulted, and/or the instrument is purchased or originated credit-impaired and includes credit-impaired exposures for which no loss has occurred or no allowance has been recognized (e.g., because they are expected to be fully recoverable through the collateral held).

Note 23 Expected credit loss measurement (continued)

g) Sensitivity information

As outlined in Note 1a, ECL estimates involve significant uncertainties at the time they are made.

ECL model

The models applied to determine point in time probability of default (PD) and loss given default (LGD) rely on market and statistical data, which have been found to correlate well with historically observed defaults in sufficiently homogeneous segments. The risk sensitivities for each of the IFRS 9 reporting segments to such factors have been summarized in Note 10.

Emerging new systematic risk factors may not be sufficiently taken into account by existing models and may affect the responsiveness thereof to a changing environment. This risk is deemed to be immaterial and is monitored through regular model review processes. It is deemed to be of less importance in particular for the large books of mortgage loans, where risk drivers tend to be stable.

Statistically derived models, which perform well on a reasonably sized and homogeneous portfolio, may show weakness in smaller-sized sub-portfolios, for which other or differently weighted factors may be more relevant criteria. Where risk experts conclude that the output of a general model is not in line with what they would have expected for a specific portfolio segment, and that this would be material for ECL, the use of overlays would be recommended, based on management judgment.

ECL estimations for segments where the PD is homogeneous, but the credit exposure is not, may prove to be inaccurate – even though all parameters have been accurately predicted – as the actual amount of loss depends on the exposure of the position that defaulted. This observation is less relevant for retail-type portfolios with smaller individual exposures from mortgage loans or financing of small and medium-sized corporate clients (SME), but may become important for the large corporate client portfolios in the Investment Bank and Personal & Corporate Banking.

Forward-looking scenarios

Depending on the scenario selection and related macroeconomic assumptions for the risk factors, the components of the relevant weighted average ECL change. This is particularly relevant for interest rates, which can take both directions under a given growth assumption (for example, low growth with high interest rates in a stagflation scenario, versus low growth and falling interest rates in a recession). Management will look for scenario narratives that reflect the key risk drivers of a credit portfolio.

As forecasting models are complex, due to the combination of multiple factors, simple what-if analyses involving a change of individual parameters do not necessarily provide realistic information on the exposure of segments to changes in the macroeconomy. Portfolio-specific analyses based on their key risk factors would also not be meaningful, as potential compensatory effects in other segments would be ignored. The table below indicates some sensitivities to ECLs if a key macroeconomic variable for the forecasting period is amended across all scenarios with all other factors remaining unchanged.

Potential effect on stage 1 and stage 2 positions from changing key parameters as at 31 December 2019

USD million	Baseline	Upside	Mild downside	Severe downside	Weighted average
Change in key parameters					
Fixed income: 10-year government bonds (absolute change)					
−1.00%	0.34	(0.52)	(25.25)	(0.21)	(7.69)
−0.25%	0.06	(0.31)	(7.72)	(0.11)	(2.31)
+0.25%	(0.02)	0.47	7.75	0.12	2.18
+1.00%	3.34	4.03	36.65	0.11	13.35
Unemployment rate (absolute change)					
−1.00%	(6.72)	(4.79)	(26.41)	(54.97)	(18.02)
−0.25%	(2.00)	(1.45)	(7.79)	(16.20)	(5.43)
+0.25%	2.26	1.65	8.74	17.31	5.99
+1.00%	8.56	5.93	36.27	73.04	24.36
Real GDP growth (relative change)					
−1.00%	2.50	2.42	2.42	1.01	2.19
+1.00%	(2.79)	(1.47)	(2.47)	(1.01)	(2.37)
House Price Index (relative change)					
−5.00%	1.00	0.59	4.67	9.50	3.06
−1.00%	0.21	0.13	0.85	1.89	0.56
+1.00%	(0.16)	(0.09)	(0.90)	(2.16)	(0.54)
+5.00%	(0.25)	(0.42)	(4.66)	(8.51)	(2.52)

Sensitivities at a Group level can be more meaningfully assessed in the context of coherent scenarios with consistently developed macroeconomic factors. The table on the previous page outlines favorable and unfavorable effects based on reasonably possible alternative changes to the economic conditions on ECL for stage 1 and stage 2 positions by disclosing for each scenario (see item b in this Note) and material portfolio the corresponding ECL output. The effect of applying scenarios is not linear across the portfolio, with a significant impact observed in the mortgage loan books, as the potential effect of rising interest rates manifests itself in the mild downside scenario, while high unemployment rates combined with a marked correction of house prices contribute to high expected losses in the severe downside scenario.

The forecasting horizon is limited to three years, with a model-based mean reversion of PD and LGD assumed thereafter. Changes to these timelines may have an effect on ECLs: depending on the cycle, a longer or shorter forecasting horizon will lead to different annualized lifetime PD and average LGD estimations. This is currently not deemed to be material for UBS, as a large proportion of loans, including mortgages in Switzerland, have maturities that are within the forecasting horizon.

Scenario weights

ECL is sensitive to changing scenario weights, in particular if narratives and parameters are selected that are not close to the baseline scenario, highlighting the non-linearity of credit losses.

As shown in the table on the bottom of this page, the ECL for stage 1 and stage 2 positions would have been USD 234 million (31 December 2018: USD 237 million) instead of USD 341 million (31 December 2018: USD 359 million) if ECL had been determined solely on the baseline scenario. The weighted average ECL therefore amounts to 149% (31 December 2018: 152%) of the baseline value.

Stage allocation and SICR

The determination of what constitutes a significant increase in credit risk (SICR) is based on management judgment as explained in Note 1a. Changing the SICR trigger will have a direct effect on ECLs, as more or fewer positions would be subject to lifetime ECLs under any scenario.

The relevance of the SICR trigger on overall ECL is demonstrated in the table below with the indication that the ECL for stage 1 and stage 2 positions would have been USD 713 million if all non-impaired positions across the portfolio had been measured for lifetime ECLs irrespective of their actual SICR status.

Maturity profile

The maturity profile of the assets is an important driver for changes in ECL due to transfers to stage 2. The current maturity profile of most lending books is relatively short; hence a movement to stage 2 may have a limited effect on ECLs. A significant portion of our lending to SMEs is documented under frame credit agreements, which allow for various forms of utilization but are unconditionally cancelable by UBS at any time. The relevant maturity for drawings under such agreements with a fixed maturity is the respective term, or a maximum of 12 months in stage 1. For unused credit lines and all drawings that have no fixed maturity (e.g., current accounts), UBS generally applies a 12-month maturity from the reporting date, given the credit review policies, which require either continuous monitoring of key indicators and behavioral patterns for smaller positions or an annual formal review for any other limit. The ECLs for these products is sensitive to shortening or extending the maturity assumption.

Potential effect on stage 1 and stage 2 positions from changing scenario weights or moving to a ECL lifetime calculation as at 31 December 2019

	Actual ECL allowances and provisions (as per Note 10)		Pro forma ECL allowances and provisions, assuming application of 100% weighting								Pro forma ECL allowances and provisions, assuming all positions being subject to lifetime ECL	
Scenarios	Weighted average		Baseline		Upside		Mild downside		Severe downside		Weighted average	
USD million, except where indicated	ECL	in % of baseline	ECL	in % of baseline	ECL	in % of baseline	ECL	in % of baseline	ECL	in % of baseline	ECL	in % of baseline
Segmentation												
Private clients with mortgages	73	248	32	100	27	84	107	336	179	562	191	646
Real estate financing	55	169	35	100	28	81	61	175	128	368	82	251
Large corporate clients	48	151	32	100	28	87	39	120	106	329	95	296
SME clients	51	112	45	100	42	93	55	121	67	147	93	205
Other segments	113	127	90	100	78	87	126	140	166	185	252	283
Total	341	149	234	100	203	87	387	166	646	276	713	312

Note 24 Fair value measurement

This Note provides fair value measurement information for both financial and non-financial instruments and is structured as follows:

a) Valuation principles
b) Valuation governance
c) Fair value hierarchy
d) Valuation adjustments
e) Transfers between Level 1 and Level 2
f) Level 3 instruments: valuation techniques and inputs
g) Level 3 instruments: sensitivity to changes in unobservable input assumptions
h) Level 3 instruments: movements during the period
i) Maximum exposure to credit risk for financial instruments measured at fair value
j) Financial instruments not measured at fair value

a) Valuation principles

Fair value is defined as the price that would be received for the sale of an asset or paid to transfer a liability in an orderly transaction between market participants in the principal market (or most advantageous market, in the absence of a principal market) as of the measurement date. In measuring fair value, the Group uses various valuation approaches and applies a hierarchy for prices and inputs that maximizes the use of observable market data, if available.

All financial and non-financial assets and liabilities measured or disclosed at fair value are categorized into one of three fair value hierarchy levels in accordance with IFRS. The fair value hierarchy is based on the transparency of inputs to the valuation of an asset or liability as of the measurement. In certain cases, the inputs used to measure fair value may fall within different levels of the fair value hierarchy. For disclosure purposes, the level in the hierarchy within which the instrument is classified in its entirety is based on the lowest level input that is significant to the position's fair value measurement:

– Level 1 – quoted prices (unadjusted) in active markets for identical assets and liabilities;
– Level 2 – valuation techniques for which all significant inputs are, or are based on, observable market data; or
– Level 3 – valuation techniques for which significant inputs are not based on observable market data.

Fair values are determined using quoted prices in active markets for identical assets or liabilities, where available. An active market is one in which transactions for the asset or liability take place with sufficient frequency and volume to provide pricing data on an ongoing basis. Assets and liabilities that are quoted and traded in an active market are valued at the currently quoted price multiplied by the number of units of the instrument held.

Where the market for a financial instrument or non-financial asset or liability is not active, fair value is established using a valuation technique, including pricing models. Valuation techniques involve the use of estimates, the extent of which depends on the complexity of the instrument and the availability of market-based data. Valuation adjustments may be made to allow for additional factors, including model, liquidity, credit and funding risks, which are not explicitly captured within the valuation technique, but which would nevertheless be considered by market participants when establishing a price. The limitations inherent in a particular valuation technique are considered in the determination of an asset or liability's classification within the fair value hierarchy.

Many cash instruments and over-the-counter (OTC) derivative contracts have bid and offer prices that can be observed in the marketplace. Bid prices reflect the highest price that a party is willing to pay for an asset. Offer prices represent the lowest price that a party is willing to accept for an asset. In general, long positions are measured at a bid price and short positions at an offer price, reflecting the prices at which the instruments could be transferred under normal market conditions. Offsetting positions in the same financial instrument are marked at the mid-price within the bid–offer spread.

Generally, the unit of account for a financial instrument is the individual instrument, and UBS applies valuation adjustments at an individual instrument level, consistent with that unit of account. However, if certain conditions are met, UBS may estimate the fair value of a portfolio of financial assets and liabilities with substantially similar and offsetting risk exposures on the basis of the net open risks.

For transactions where the valuation technique used to measure fair value requires significant inputs that are not based on observable market data, the financial instrument is initially recognized at the transaction price. This initial recognition amount may differ from the fair value obtained using the valuation technique. Any such difference is deferred and not recognized in the income statement and referred to as deferred day-1 profit or loss.

→ **Refer to Note 24d for more information**

b) Valuation governance

UBS's fair value measurement and model governance framework includes numerous controls and other procedural safeguards that are intended to maximize the quality of fair value measurements reported in the financial statements. New products and valuation techniques must be reviewed and approved by key stakeholders from risk and finance control functions. Responsibility for the ongoing measurement of financial and non-financial instruments at fair value resides with the business divisions. In carrying out their valuation responsibilities, the businesses are required to consider the availability and quality of external market data and to provide justification and rationale for their fair value estimates.

Fair value estimates are validated by risk and finance control functions, which are independent of the business divisions. Independent price verification is performed by Finance through benchmarking the business divisions' fair value estimates with observable market prices and other independent sources. Controls and a governance framework are in place and are intended to ensure the quality of third-party pricing sources where used. For instruments where valuation models are used to determine fair value, independent valuation and model control groups within Finance and Risk Control evaluate UBS's models on a regular basis, including valuation and model input parameters as well as pricing. As a result of the valuation controls employed, valuation adjustments may be made to the business divisions' estimates of fair value to align with independent market data and the relevant accounting standard.

→ **Refer to Note 24d for more information**

Note 24 Fair value measurement (continued)

c) Fair value hierarchy

The table below provides the fair value hierarchy classification of financial and non-financial assets and liabilities measured at fair value. The narrative that follows describes the different product types, valuation techniques used in measuring their fair value, including significant valuation inputs and assumptions used, and the factors determining their classification within the fair value hierarchy.

Determination of fair values from quoted market prices or valuation techniques[1]

	31.12.19				31.12.18			
USD million	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Financial assets measured at fair value on a recurring basis								
Financial assets at fair value held for trading	113,634	12,068	1,812	127,514	88,452	13,956	1,962	104,370
of which:								
Equity instruments	*96,161*	*400*	*226*	*96,787*	*72,266*	*455*	*46*	*72,768*
Government bills / bonds	*9,630*	*1,770*	*64*	*11,464*	*9,554*	*1,607*	*0*	*11,161*
Investment fund units	*7,088*	*1,729*	*50*	*8,867*	*6,074*	*3,200*	*442*	*9,716*
Corporate and municipal bonds	*755*	*6,617*	*542*	*7,914*	*558*	*5,559*	*651*	*6,768*
Loans	*0*	*1,180*	*791*	*1,971*	*0*	*2,886*	*680*	*3,566*
Asset-backed securities	*0*	*372*	*140*	*512*	*0*	*248*	*144*	*392*
Derivative financial instruments	356	120,222	1,264	121,841	753	124,033	1,424	126,210
of which:								
Foreign exchange contracts	*240*	*52,227*	*8*	*52,474*	*311*	*53,148*	*30*	*53,489*
Interest rate contracts	*6*	*42,288*	*263*	*42,558*	*0*	*36,658*	*418*	*37,076*
Equity / index contracts	*7*	*22,220*	*597*	*22,825*	*3*	*30,905*	*496*	*31,404*
Credit derivative contracts	*0*	*1,612*	*394*	*2,007*	*0*	*1,444*	*476*	*1,920*
Commodity contracts	*0*	*1,820*	*0*	*1,821*	*0*	*1,768*	*2*	*1,769*
Brokerage receivables	0	18,007	0	18,007	0	16,840	0	16,840
Financial assets at fair value not held for trading	40,608	39,373	3,963	83,944	40,204	38,073	4,413	82,690
of which:								
Financial assets for unit-linked investment contracts[2]	*27,568*	*118*	*0*	*27,686*	*21,440*	*5*	*0*	*21,446*
Corporate and municipal bonds	*653*	*18,732*	*0*	*19,385*	*781*	*16,455*	*0*	*17,236*
Government bills / bonds	*12,089*	*3,700*	*0*	*15,790*	*17,687*	*4,806*	*0*	*22,493*
Loans	*0*	*10,206*	*1,231*	*11,438*	*0*	*6,380*	*1,752*	*8,132*
Securities financing transactions	*0*	*6,148*	*147*	*6,294*	*0*	*9,899*	*39*	*9,937*
Auction rate securities	*0*	*0*	*1,536*	*1,536*	*0*	*0*	*1,664*	*1,664*
Investment fund units	*194*	*448*	*98*	*740*	*173*	*428*	*109*	*710*
Equity instruments	*103*	*4*	*452*	*559*	*123*	*62*	*517*	*702*
Other	*0*	*16*	*499*	*515*	*0*	*38*	*331*	*369*
Financial assets measured at fair value through other comprehensive income on a recurring basis								
Financial assets measured at fair value through other comprehensive income	1,906	4,439	0	6,345	2,319	4,347	0	6,667
of which:								
Asset-backed securities	*0*	*3,955*	*0*	*3,955*	*0*	*3,931*	*0*	*3,931*
Government bills / bonds	*1,859*	*16*	*0*	*1,875*	*2,171*	*69*	*0*	*2,239*
Corporate and municipal bonds	*47*	*468*	*0*	*515*	*149*	*348*	*0*	*497*
Non-financial assets measured at fair value on a recurring basis								
Precious metals and other physical commodities	4,597	0	0	4,597	4,298	0	0	4,298
Non-financial assets measured at fair value on a non-recurring basis								
Other non-financial assets[3]	0	0	199	199	0	82	0	82
Total assets measured at fair value	161,101	194,110	7,237	362,448	136,026	197,331	7,800	341,156

Note 24 Fair value measurement (continued)

Determination of fair values from quoted market prices or valuation techniques (continued)[1]

	31.12.19				31.12.18			
USD million	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Financial liabilities measured at fair value on a recurring basis								
Financial liabilities at fair value held for trading	25,791	4,726	75	30,591	24,406	4,468	69	28,943
of which:								
Equity instruments	*22,526*	*149*	*59*	*22,734*	*21,306*	*537*	*42*	*21,886*
Corporate and municipal bonds	*40*	*3,606*	*16*	*3,661*	*126*	*3,377*	*27*	*3,530*
Government bills / bonds	*2,820*	*646*	*0*	*3,466*	*2,423*	*416*	*0*	*2,839*
Investment fund units	*404*	*294*	*0*	*698*	*551*	*137*	*0*	*689*
Derivative financial instruments	385	118,498	1,996	120,880	580	122,933	2,210	125,723
of which:								
Foreign exchange contracts	*248*	*53,705*	*60*	*54,013*	*322*	*52,964*	*86*	*53,372*
Interest rate contracts	*7*	*36,434*	*130*	*36,571*	*7*	*32,511*	*226*	*32,743*
Equity / index contracts	*3*	*24,171*	*1,293*	*25,468*	*1*	*33,669*	*1,371*	*35,041*
Credit derivative contracts	*0*	*2,448*	*512*	*2,960*	*0*	*2,203*	*519*	*2,722*
Commodity contracts	*0*	*1,707*	*0*	*1,707*	*0*	*1,487*	*0*	*1,487*
Financial liabilities designated at fair value on a recurring basis								
Brokerage payables designated at fair value	0	37,233	0	37,233	0	38,420	0	38,420
Debt issued designated at fair value	0	56,943	9,866	66,809	0	46,074	10,957	57,031
Other financial liabilities designated at fair value	0	35,119	822	35,940	0	32,569	1,025	33,594
of which:								
Financial liabilities related to unit-linked investment contracts	*0*	*28,145*	*0*	*28,145*	*0*	*21,679*	*0*	*21,679*
Securities financing transactions	*0*	*5,742*	*0*	*5,742*	*0*	*9,461*	*0*	*9,461*
Over-the-counter debt instruments	*0*	*1,231*	*791*	*2,022*	*0*	*1,427*	*1,023*	*2,450*
Total liabilities measured at fair value	26,176	252,518	12,759	291,452	24,986	244,465	14,260	283,711

1 Bifurcated embedded derivatives are presented on the same balance sheet lines as their host contracts and are not included in this table. The fair value of these derivatives was not material for the periods presented. 2 Fair value hierarchy information for Financial assets for unit-linked investment contracts in the comparative period has been restated, resulting in an increase in Level 1 assets of USD 4,746 million as of 31 December 2018, with a corresponding decrease in Level 2 assets. 3 Other non-financial assets primarily consist of properties and other non-current assets held for sale, which are measured at the lower of their net carrying amount or fair value less costs to sell.

Note 24 Fair value measurement (continued)

Valuation techniques

Valuation techniques are used to value positions for which a market price is not available from active market sources. This includes certain less liquid debt and equity instruments, certain exchange-traded derivatives and all derivatives transacted in the OTC market. UBS uses widely recognized valuation techniques for determining the fair value of financial and non-financial instruments that are not actively traded and quoted. The most frequently applied valuation techniques include discounted value of expected cash flows, relative value and option pricing methodologies.

Discounted value of expected cash flows is a valuation technique that measures fair value using estimated expected future cash flows from assets or liabilities and then discounts these cash flows using a discount rate or discount margin that reflects the credit and/or funding spreads required by the market for instruments with similar risk and liquidity profiles to produce a present value. When using such valuation techniques, expected future cash flows are estimated using an observed or implied market price for the future cash flows or by using industry standard cash flow projection models. The discount factors within the calculation are generated using industry standard yield curve modeling techniques and models.

Relative value models measure fair value based on the market prices of equivalent or comparable assets or liabilities, making adjustments for differences between the characteristics of the observed instrument and the instrument being valued.

Option pricing models incorporate assumptions regarding the behavior of future price movements of an underlying referenced asset or assets to generate a probability-weighted future expected payoff for the option. The resulting probability-weighted expected payoff is then discounted using discount factors generated from industry standard yield curve modeling techniques and models. The option pricing model may be implemented using a closed-form analytical formula or other mathematical techniques (e.g., binomial tree or Monte Carlo simulation).

Where available, valuation techniques use market-observable assumptions and inputs. If such data is not available, inputs may be derived by reference to similar assets in active markets, from recent prices for comparable transactions or from other observable market data. In such cases, the inputs selected are based on historical experience and practice for similar or analogous instruments, derivation of input levels based on similar products with observable price levels and knowledge of current market conditions and valuation approaches.

For more complex instruments, fair values may be estimated using a combination of observed transaction prices, consensus pricing services and relevant quotes. Consideration is given to the nature of the quotes (e.g., indicative or firm) and the relationship of recently evidenced market activity to the prices provided by consensus pricing services. UBS also uses internally developed models, which are typically based on valuation methods and techniques recognized as standard within the industry.

Assumptions and inputs used in valuation techniques include benchmark interest rate curves, credit and funding spreads used in estimating discount rates, bond and equity prices, equity index prices, foreign exchange rates, levels of market volatility and correlation. Refer to Note 24f for more information. The discount curves used by the Group incorporate the funding and credit characteristics of the instruments to which they are applied.

Financial instruments excluding derivatives: product description, valuation and classification in the fair value hierarchy

Government bills and bonds

Product description: government bills and bonds include fixed-rate, floating-rate and inflation-linked bills and bonds issued by sovereign governments.

Valuation: these instruments are generally valued using prices obtained directly from the market. Instruments that cannot be priced directly using active-market data are valued using discounted cash flow valuation techniques that incorporate market data for similar government instruments.

Fair value hierarchy: government bills and bonds are generally traded in active markets with prices that can be obtained directly from these markets, resulting in classification as Level 1, while the remaining positions are classified as Level 2 and Level 3.

Corporate and municipal bonds

Product description: corporate bonds include senior, junior and subordinated debt issued by corporate entities. Municipal bonds are issued by state and local governments. While most instruments are standard fixed- or floating-rate securities, some may have more complex coupon or embedded option features.

Valuation: corporate and municipal bonds are generally valued using prices obtained directly from the market for the security, or similar securities, adjusted for seniority, maturity and liquidity. When prices are not available, instruments are valued using discounted cash flow valuation techniques incorporating the credit spread of the issuer or similar issuers. For convertible bonds where no directly comparable price is available, issuances may be priced using a convertible bond model.

Fair value hierarchy: corporate and municipal bonds are generally classified as Level 1 or Level 2 depending on the depth of trading activity behind price sources. Level 3 instruments have no suitable pricing information available and also cannot be referenced to other securities issued by the same issuer. Therefore, such instruments are measured based on price levels for similar issuers adjusted for relative tenor and issuer quality.

Traded loans and loans designated at fair value

Product description: these instruments include fixed-rate loans, corporate loans, recently originated commercial real estate loans and contingent lending transactions.

Valuation: loans are valued directly using market prices that reflect recent transactions or quoted dealer prices, where available. Where no market price data is available, loans are valued by relative value benchmarking using pricing derived from debt instruments in comparable entities or different products in the same entity, or by using a credit default swap valuation technique, which requires inputs for credit spreads, credit recovery rates and interest rates. Recently originated commercial real estate loans are measured using a securitization approach based on rating agency guidelines. The valuation of the contingent lending transactions is dependent on actuarial mortality levels and actuarial life insurance policy lapse rates. Mortality and lapse rate assumptions are based on external actuarial estimations for large homogeneous pools, and contingencies are derived from a range relative to the actuarially expected amount.

Fair value hierarchy: instruments with suitably deep and liquid pricing information are classified as Level 2, while any positions requiring the use of valuation techniques, or for which the price sources have insufficient trading depth, are classified as Level 3.

Investment fund units

Product description: investment fund units are pools of assets, generally equity instruments and bonds, broken down to redeemable units.

Valuation: investment fund units are predominantly exchange-traded, with readily available quoted prices in liquid markets. Where market prices are not available, fair value may be measured using net asset values (NAVs), taking into account any restrictions imposed upon redemption.

Fair value hierarchy: listed units are classified as Level 1, provided there is sufficient trading activity to justify active-market classification, while other positions are classified as Level 2. Positions for which NAVs are not available or that are not redeemable at the measurement date or shortly thereafter are classified as Level 3.

Asset-backed securities

Product description: asset-backed securities (ABS) include residential mortgage-backed securities (RMBS), commercial mortgage-backed securities (CMBS), collateralized debt obligations (CDO) and other ABS and are instruments generally issued through the process of securitization of underlying interest-bearing assets.

Valuation: for liquid securities, the valuation process will use trade and price data, updated for movements in market levels between the time of trading and the time of valuation. Less liquid instruments are measured using discounted expected cash flows incorporating price data for instruments or indices with similar risk profiles. Inputs to discounted expected cash flow techniques include asset prepayment rates, discount margin or discount yields and asset default and recovery rates.

Fair value hierarchy: RMBS, CMBS and other ABS are generally classified as Level 2. However, if significant inputs are unobservable, or if market or fundamental data is not available, they are classified as Level 3.

Auction rate securities

Product description: auction rate securities (ARS) are debt or preferred equity securities that have interest rates that are reset through a periodic auction and, in the event of a failed auction, to a maximum rate as defined by each deal's prospectus. ARS are generally structured as bonds with long-term maturities (20–30 years) or preferred shares (issued by closed-end funds).

Valuation: ARS are valued using market prices that reflect recent transactions after applying an adjustment for trade size or quoted dealer prices, where available.

Fair value hierarchy: suitably deep and liquid pricing information is generally not available for ARS. As a result, these securities are classified as Level 3.

Equity instruments

Product description: equity instruments include stocks and shares, private equity positions and units held in hedge funds.

Valuation: listed equity instruments are generally valued using prices obtained directly from the market. Unlisted equity holdings, including private equity positions, are initially marked at their transaction price and are revalued when reliable evidence of price movement becomes available or when the position is deemed to be impaired. Fair value for units held in hedge funds is measured based on their published NAVs, taking into account any restrictions imposed upon redemption.

Fair value hierarchy: the majority of equity securities are actively traded on public stock exchanges where quoted prices are readily and regularly available, resulting in Level 1 classification. Units held in hedge funds are classified as Level 2, except for positions for which published NAVs are not available or that are not redeemable at the measurement date or shortly thereafter, in which case such positions are classified as Level 3.

Financial assets for unit-linked investment contracts

Product description: unit-linked investment contracts allow investors to invest in a pool of assets through issued investment units.

Valuation: the majority of assets are listed on exchanges and fair values are determined using quoted prices.

Fair value hierarchy: most assets are classified as Level 1 if actively traded, or Level 2 if trading is not active. However, instruments for which prices are not readily available are classified as Level 3.

Note 24 Fair value measurement (continued)

Securities financing transactions

Product description: securities financing transactions include (reverse) repurchase agreements (securities purchased under resale agreements and securities sold under repurchase agreements) that are managed on a fair value basis.

Valuation: these instruments are valued using discounted expected cash flow techniques. The discount rate applied is based on funding curves that are relevant to the collateral eligibility terms for the contract in question.

Fair value hierarchy: collateral funding curves for these instruments are generally observable and, as a result, these positions are classified as Level 2. Where the collateral terms are non-standard, the funding curve may be considered unobservable and these positions are classified as Level 3.

Brokerage receivables and payables

Product description: brokerage receivables and payables include callable, on-demand balances, including long cash credits, short cash debits, margin debit balances and short sale proceeds.

Valuation: fair value is determined based on the value of the underlying balances.

Fair value hierarchy: due to their on-demand nature, these receivables and payables are designated as Level 2.

Financial liabilities designated at fair value

Product description: debt instruments, primarily comprised of equity-, rates- and credit-linked issued notes, which are held at fair value under the fair value option. These instruments are tailored specifically to the holder's risk or investment appetite with structured coupons or payoffs.

Valuation: the risk management and the valuation approaches for these instruments are closely aligned with the equivalent derivatives business and the underlying risk, and the valuation techniques used for this component are the same as the relevant valuation techniques described below. For example, equity-linked notes should be referenced to equity / index contracts and credit-linked notes should be referenced to credit derivative contracts.

Fair value hierarchy: observability is closely aligned with the equivalent derivatives business and the underlying risk.

→ **Refer to Notes 19 and 22 for information about debt issued designated at fair value and other financial liabilities designated at fair value**

→ **Refer to Note 24d for more information about own credit adjustments related to financial liabilities designated at fair value**

Amounts due under unit-linked investment contracts

Product description: the financial liability represents the amounts due to unit holders.

Valuation: the fair values of investment contract liabilities are determined by reference to the fair value of the corresponding assets.

Fair value hierarchy: the liabilities themselves are not actively traded, but are mainly referenced to instruments that are actively traded and are therefore classified as Level 2.

Derivative instruments: product description, valuation and classification in the fair value hierarchy

The curves used for discounting expected cash flows in the valuation of collateralized derivatives reflect the funding terms associated with the relevant collateral arrangement for the instrument being valued. These collateral arrangements differ across counterparties with respect to the eligible currency and interest terms of the collateral. The majority of collateralized derivatives are measured using a discount curve that is based on funding rates derived from overnight interest in the cheapest eligible currency for the respective counterparty collateral agreement.

Uncollateralized and partially collateralized derivatives are discounted using the LIBOR (or equivalent) curve for the currency of the instrument. As described in Note 24d, the fair value of uncollateralized and partially collateralized derivatives is then adjusted by CVA, DVA and FVA as applicable, to reflect an estimation of the effect of counterparty credit risk, UBS's own credit risk and funding costs and benefits.

Interest rate contracts

Product description: interest rate swap contracts include interest rate swaps, basis swaps, cross-currency swaps, inflation swaps and interest rate forwards, often referred to as forward rate agreements (FRA). Interest rate option contracts include caps and floors, swaptions, swaps with complex payoff profiles and other more complex interest rate options.

Valuation: interest rate swap contracts are valued by estimating future interest cash flows and discounting those cash flows using a rate that reflects the appropriate funding rate for the position being measured. The yield curves used to estimate future index levels and discount rates are generated using market standard yield curve models using interest rates associated with current market activity. The key inputs to the models are interest rate swap rates, FRA rates, short-term interest rate futures prices, basis swap spreads and inflation swap rates. Interest rate option contracts are valued using various market standard option models, using inputs that include interest rate yield curves, inflation curves, volatilities and correlations. The volatility and correlation inputs within the models are implied from market data based on market-observed prices for standard option instruments trading within the market. Option models used to value more exotic products have a number of model parameter inputs that require calibration to enable the exotic model to price standard option instruments to the price levels observed in the market. When the maturity of the interest rate swap or option contract exceeds the term for which standard market quotes are observable for a significant input parameter, the contracts are valued by extrapolation from the last observable point using standard assumptions or by reference to another observable comparable input parameter to represent a suitable proxy for that portion of the term.

Fair value hierarchy: the majority of interest rate swaps are classified as Level 2 as the standard market contracts that form the inputs for yield curve models are generally traded in active and observable markets. Options are generally treated as Level 2 as the calibration process enables the model output to be validated to active-market levels. Models calibrated in this way are then used to revalue the portfolio of both standard options and more exotic products. In most cases, there are active and observable markets for the standard market instruments that form the inputs for yield curve models as well as the financial instruments from which volatility and correlation inputs are derived. Exotic options for which appropriate volatility or correlation input levels cannot be implied from observable market data are classified as Level 3. Interest rate swap or option contracts are classified as Level 3 when the term exceeds standard market-observable quotes.

Credit derivative contracts

Product description: a credit derivative is a financial instrument that transfers credit risk related to a single underlying entity, a portfolio of underlying entities or a pool of securitized referenced assets. Credit derivative products include credit default swaps (CDSs) on single names, indices and securitized products, plus first to default swaps and certain total return swaps.

Valuation: credit derivative contracts are valued using industry standard models based primarily on market credit spreads, upfront pricing points and implied recovery rates. Where a derivative credit spread is not directly available, it may be derived from the price of the reference cash bond. Asset-backed credit derivatives are valued using a valuation technique similar to that of the underlying security with an adjustment to reflect the funding differences between cash and synthetic form. Inputs include prepayment rates, default rates, loss severity, discount margin / rate.

Fair value hierarchy classification: single-entity and portfolio credit derivative contracts are classified as Level 2 when credit spreads and recovery rates are determined from actively traded observable market data. Where the underlying reference name(s) are not actively traded and the correlation cannot be directly mapped to actively traded tranche instruments, these contracts are classified as Level 3. Asset-backed credit derivatives follow the characteristics of the underlying security and are therefore distributed across Level 2 and Level 3.

Foreign exchange contracts

Product description: this includes open spot and forward foreign exchange (FX) contracts and OTC FX option contracts. OTC FX option contracts include standard call and put options, options with multiple exercise dates, path-dependent options, options with averaging features, options with discontinuous payoff characteristics, options on a number of underlying FX rates and multi-dimensional FX option contracts, which have a dependency on multiple FX pairs.

Valuation: open spot FX contracts are valued using the FX spot rate observed in the market. Forward FX contracts are valued using the FX spot rate adjusted for forward pricing points observed from standard market-based sources. OTC FX option contracts are valued using market standard option valuation models. The models used for shorter-dated options (i.e., maturities of five years or less) tend to be different than those used for longer-dated options because the models needed for longer-dated OTC FX contracts require additional consideration of interest rate and FX rate interdependency. Inputs to the option valuation models include spot FX rates, FX forward points, FX volatilities, interest rate yield curves, interest rate volatilities and correlations. The inputs for volatility and correlation are implied through the calibration of observed prices for standard option contracts trading within the market. The valuation for multi-dimensional FX options uses a multi-local volatility model, which is calibrated to the observed FX volatilities for all relevant FX pairs.

Fair value hierarchy: the markets for both FX spot and FX forward pricing points are both actively traded and observable and therefore such FX contracts are generally classified as Level 2. A significant proportion of OTC FX option contracts are classified as Level 2 as inputs are derived mostly from standard market contracts traded in active and observable markets. OTC FX option contracts classified as Level 3 include multi-dimensional FX options and long-dated FX exotic option contracts where there is no active market from which to derive volatility or correlation inputs.

Equity / index contracts

Product description: equity / index contracts are equity forward contracts and equity option contracts. Equity option contracts include market standard single or basket stock or index call and put options as well as equity option contracts with more complex features.

Note 24 Fair value measurement (continued)

Valuation: equity forward contracts have a single stock or index underlying and are valued using market standard models. The key inputs to the models are stock prices, estimated dividend rates and equity funding rates (which are implied from prices of forward contracts observed in the market). Estimated cash flows are then discounted using market standard discounted cash flow models using a rate that reflects the appropriate funding rate for that portion of the portfolio. When no market data is available for the instrument maturity, they are valued by extrapolation of available data, use of historical dividend data, or use of data for a related equity. Equity option contracts are valued using market standard models that estimate the equity forward level as described for equity forward contracts and incorporate inputs for stock volatility and for correlation between stocks within a basket. The probability-weighted expected option payoff generated is then discounted using market standard discounted cash flow models applying a rate that reflects the appropriate funding rate for that portion of the portfolio. When volatility, forward or correlation inputs are not available, they are valued using extrapolation of available data, historical dividend, correlation or volatility data, or the equivalent data for a related equity.

Fair value hierarchy: as inputs are derived mostly from standard market contracts traded in active and observable markets, a significant proportion of equity forward contracts are classified as Level 2. Equity option positions for which inputs are derived from standard market contracts traded in active and observable markets are also classified as Level 2. Level 3 positions are those for which volatility, forward or correlation inputs are not observable.

Commodity contracts

Product description: commodity derivative contracts include forward, swap and option contracts on individual commodities and on commodity indices.

Valuation: commodity forward and swap contracts are measured using market standard models that use market forward levels on standard instruments. Commodity option contracts are measured using market standard option models that estimate the commodity forward level as described for commodity forward and swap contracts, incorporating inputs for the volatility of the underlying index or commodity. For commodity options on baskets of commodities or bespoke commodity indices, the valuation technique also incorporates inputs for the correlation between different commodities or commodity indices.

Fair value hierarchy: individual commodity contracts are typically classified as Level 2 because active forward and volatility market data is available.

→ **Refer to Note 11 for more information about derivative instruments**

d) Valuation adjustments

The output of a valuation technique is always an estimate of a fair value that cannot be measured with complete certainty. As a result, valuations are adjusted, where appropriate and when such factors would be considered by market participants in estimating fair value, to reflect close-out costs, credit exposure, model-driven valuation uncertainty, funding costs and benefits, trading restrictions and other factors. Valuation adjustments are an important component of fair value for assets and liabilities that are measured using valuation techniques. Such adjustments are applied to reflect uncertainties within the fair value measurement process, to adjust for an identified model simplification or to incorporate an aspect of fair value that requires an overall portfolio assessment rather than an evaluation based on an individual instrument level characteristic.

Deferred day-1 profit or loss reserves

For new transactions where the valuation technique used to measure fair value requires significant inputs that are not based on observable market data, the financial instrument is initially recognized at the transaction price. The transaction price may differ from the fair value obtained using a valuation technique, where any such difference is deferred and not initially recognized in the income statement. These day-1 profit or loss reserves are reflected, where appropriate, as valuation adjustments.

Deferred day-1 profit or loss is generally released into *Other net income from financial instruments measured at fair value through profit or loss* when pricing of equivalent products or the underlying parameters become observable or when the transaction is closed out.

The table on the next page summarizes the changes in deferred day-1 profit or loss reserves during the respective period.

Note 24 Fair value measurement (continued)

Deferred day-1 profit or loss reserves

USD million	2019	2018	2017
Reserve balance at the beginning of the year	255	338	365
Profit / (loss) deferred on new transactions	171	341	247
(Profit) / loss recognized in the income statement	(278)	(417)	(279)
Foreign currency translation	(2)	(6)	6
Reserve balance at the end of the year	146	255	338

Own credit

The valuation of financial liabilities designated at fair value requires consideration of the own credit component of fair value. Own credit risk is reflected in the valuation of UBS's fair value option liabilities where this component is considered relevant for valuation purposes by UBS's counterparties and other market participants. However, own credit risk is not reflected in the valuation of UBS's liabilities that are fully collateralized or for other obligations for which it is established market practice not to include an own credit component.

Changes in the fair value of financial liabilities designated at fair value through profit or loss related to own credit are recognized in *Other comprehensive income* directly within *Retained earnings*. As the Group does not hedge changes in own credit arising on financial liabilities designated at fair value, presenting own credit within *Other comprehensive income* does not create or increase an accounting mismatch in the income statement. The unrealized and any realized own credit recognized in *Other comprehensive income* will not be reclassified to the income statement in future periods.

Own credit is estimated using an Own Credit Adjustment (OCA) curve, which incorporates observable market data, including market-observed secondary prices for UBS senior debt, UBS credit default swap (CDS) spreads and senior debt curves of peers. The table below summarizes the effects of own credit adjustments related to financial liabilities designated at fair value. The change in unrealized own credit consists of changes in fair value that are attributable to the change in UBS's credit spreads, as well as the effect of changes in fair values attributable to factors other than credit spreads, such as redemptions, effects from time decay and changes in interest and other market rates. Realized own credit is recognized when an instrument with an associated unrealized own credit adjustment is repurchased prior to the contractual maturity date. Life-to-date amounts reflect the cumulative unrealized change since initial recognition.

→ **Refer to Note 19 for more information about debt issued designated at fair value**

Own credit adjustments on financial liabilities designated at fair value

	For the year ended		
	Included in Other comprehensive income		
USD million	31.12.19	31.12.18	31.12.17
Recognized during the year:			
Realized gain / (loss)	8	(3)	22
Unrealized gain / (loss)	(408)	519	(337)
Total gain / (loss), before tax	(400)	517	(315)

	As of		
USD million	31.12.19	31.12.18	31.12.17
Recognized on the balance sheet as of the end of the year:			
Unrealized life-to-date gain / (loss)	(88)	320	(200)

Note 24 Fair value measurement (continued)

Credit valuation adjustments

In order to measure the fair value of OTC derivative instruments, including funded derivative instruments that are classified as *Financial assets at fair value not held for trading,* credit valuation adjustments (CVAs) are necessary to reflect the credit risk of the counterparty inherent in these instruments. This amount represents the estimated fair value of protection required to hedge the counterparty credit risk of such instruments. A CVA is determined for each counterparty, considering all exposures to that counterparty, and is dependent on the expected future value of exposures, default probabilities and recovery rates, applicable collateral or netting arrangements, break clauses, funding spreads and other contractual factors.

Funding valuation adjustments

Funding valuation adjustments (FVAs) reflect the costs and benefits of funding associated with uncollateralized and partially collateralized derivative receivables and payables and are calculated as the valuation effect from moving the discounting of the uncollateralized derivative cash flows from LIBOR to OCA using the CVA framework, including the probability of counterparty default. An FVA is also applied to collateralized derivative assets in cases where the collateral cannot be sold or repledged.

Debit valuation adjustments

A debit valuation adjustment (DVA) is estimated to incorporate own credit in the valuation of derivatives, effectively consistent with the CVA framework. A DVA is determined for each counterparty, considering all exposures with that counterparty and taking into account collateral netting agreements, expected future mark-to-market movements and UBS's credit default spreads.

Other valuation adjustments

Instruments that are measured as part of a portfolio of combined long and short positions are valued at mid-market levels to ensure consistent valuation of the long- and short-component risks. A liquidity valuation adjustment is then made to the overall net long or short exposure to move the fair value to bid or offer as appropriate, reflecting current levels of market liquidity. The bid–offer spreads used in the calculation of this valuation adjustment are obtained from market transactions and other relevant sources and are updated periodically.

Uncertainties associated with the use of model-based valuations are incorporated into the measurement of fair value through the use of model reserves. These reserves reflect the amounts that the Group estimates should be deducted from valuations produced directly by models to incorporate uncertainties in the relevant modeling assumptions, in the model and market inputs used, or in the calibration of the model output to adjust for known model deficiencies. In arriving at these estimates, the Group considers a range of market practices, including how it believes market participants would assess these uncertainties. Model reserves are reassessed periodically in light of data from market transactions, consensus pricing services and other relevant sources.

Valuation adjustments on financial instruments

	As of	
Life-to-date gain / (loss), USD million	31.12.19	31.12.18
Credit valuation adjustments[1]	(48)	(90)
Funding valuation adjustments	(50)	(85)
Debit valuation adjustments	1	1
Other valuation adjustments	(566)	(716)
of which: liquidity	*(300)*	*(388)*
of which: model uncertainty	*(266)*	*(327)*

1 Amounts do not include reserves against defaulted counterparties.

e) Transfers between Level 1 and Level 2

The amounts disclosed in this section reflect transfers between Level 1 and Level 2 for instruments that were held for the entire reporting period.

Assets and liabilities transferred from Level 2 to Level 1 during 2019 were not material. Assets and liabilities transferred from Level 1 to Level 2 during 2019 were also not material.

Note 24 Fair value measurement (continued)

f) Level 3 instruments: valuation techniques and inputs

The table below presents material Level 3 assets and liabilities together with the valuation techniques used to measure fair value, the significant inputs used in a given valuation technique that are considered unobservable and a range of values for those unobservable inputs. Several inputs disclosed in prior periods are not disclosed in the table below because they are not considered significant to the respective valuation technique as of 31 December 2019.

The range of values represents the highest- and lowest-level input used in the valuation techniques. Therefore, the range does not reflect the level of uncertainty regarding a particular input or an assessment of the reasonableness of the Group's estimates and assumptions, but rather the different underlying characteristics of the relevant assets and liabilities held by the Group. The ranges will therefore vary from period to period and parameter to parameter based on characteristics of the instruments held at each balance sheet date. Furthermore, the ranges of unobservable inputs may differ across other financial institutions, reflecting the diversity of the products in each firm's inventory.

Valuation techniques and inputs used in the fair value measurement of Level 3 assets and liabilities

	Fair value						Range of inputs						
	Assets		Liabilities				31.12.19			31.12.18			
USD billion	31.12.19	31.12.18	31.12.19	31.12.18	Valuation technique(s)	Significant unobservable input(s)[1]	low	high	weighted average[2]	low	high	weighted average[2]	unit[1]
Financial assets and liabilities at fair value held for trading and Financial assets at fair value not held for trading													
Corporate and municipal bonds	*0.5*	*0.7*	*0.0*	*0.0*	Relative value to market comparable	Bond price equivalent	0	143	101	0	134	89	points
Traded loans, loans designated at fair value, loan commitments and guarantees	*2.4*	*2.7*	*0.0*	*0.0*	Relative value to market comparable	Loan price equivalent	0	101	99	0	100	99	points
					Discounted expected cash flows	Credit spread	225	530		301	513		basis points
					Market comparable and securitization model	Discount margin	0	14	2	1	14	2	%
Auction rate securities	*1.5*	*1.7*			Relative value to market comparable	Bond price equivalent	79	98	88	79	99	89	points
Investment fund units[3]	*0.1*	*0.6*	*0.0*	*0.0*	Relative value to market comparable	Net asset value							
Equity instruments[3]	*0.7*	*0.6*	*0.1*	*0.0*	Relative value to market comparable	Price							
Debt issued designated at fair value[4]			*9.9*	*11.0*									
Other financial liabilities designated at fair value[4]			*0.8*	*1.0*									
Derivative financial instruments													
Interest rate contracts	*0.3*	*0.4*	*0.1*	*0.2*	Option model	Volatility of interest rates	15	63		50	81		basis points
Credit derivative contracts	*0.4*	*0.5*	*0.5*	*0.5*	Discounted expected cash flows	Credit spreads	1	700		4	545		basis points
						Bond price equivalent	0	100		3	99		points
Equity / index contracts	*0.6*	*0.5*	*1.3*	*1.4*	Option model	Equity dividend yields	0	14		0	12		%
						Volatility of equity stocks, equity and other indices	4	105		4	93		%
						Equity-to-FX correlation	(45)	71		(39)	67		%
						Equity-to-equity correlation	(17)	98		(50)	97		%

1 The ranges of significant unobservable inputs are represented in points, percentages and basis points. Points are a percentage of par (e.g., 100 points would be 100% of par). 2 Weighted averages are provided for non-derivative financial instruments and were calculated by weighting inputs based on the fair values of the respective instruments. Weighted averages are not provided for inputs related to derivative contracts as this would not be meaningful. 3 The range of inputs is not disclosed as there is a dispersion of values given the diverse nature of the investments. 4 Valuation techniques, significant unobservable inputs and the respective input ranges for Debt issued designated at fair value and Other financial liabilities designated at fair value, which are primarily comprised of over-the-counter debt instruments, are the same as the equivalent derivative or structured financing instruments presented elsewhere in this table.

Note 24 Fair value measurement (continued)

Significant unobservable inputs in Level 3 positions

This section discusses the significant unobservable inputs used in the valuation of Level 3 instruments and assesses the potential effect that a change in each unobservable input in isolation may have on a fair value measurement, including information to facilitate an understanding of factors that give rise to the input ranges shown. Relationships between observable and unobservable inputs have not been included in the summary below.

Bond price equivalent

Where market prices are not available for a bond, fair value is measured by comparison with observable pricing data from similar instruments. Factors considered when selecting comparable instruments include credit quality, maturity and industry of the issuer. Fair value may be measured either by a direct price comparison or by conversion of an instrument price into a yield (either as an outright yield or as a spread to LIBOR). Bond prices are expressed as points of the nominal, where 100 represents a fair value equal to the nominal value (i.e., par).

For corporate and municipal bonds, the range represents the range of prices from reference issuances used in determining fair value. Bonds priced at 0 are distressed to the point that no recovery is expected, while prices significantly in excess of 100 or par relate to inflation-linked or structured issuances that pay a coupon in excess of the market benchmark as of the measurement date.

For credit derivatives, the bond price range represents the range of prices used for reference instruments, which are typically converted to an equivalent yield or credit spread as part of the valuation process.

Loan price equivalent

Where market prices are not available for a traded loan, fair value is measured by comparison with observable pricing data for similar instruments. Factors considered when selecting comparable instruments include industry segment, collateral quality, maturity and issuer-specific covenants. Fair value may be measured either by a direct price comparison or by conversion of an instrument price into a yield. The range represents the range of prices derived from reference issuances of a similar credit quality used in measuring fair value for loans classified as Level 3. Loans priced at 0 are distressed to the point that no recovery is expected, while a current price of 100 represents a loan that is expected to be repaid in full.

Credit spread

Valuation models for many credit derivatives require an input for the credit spread, which is a reflection of the credit quality of the associated referenced underlying. The credit spread of a particular security is quoted in relation to the yield on a benchmark security or reference rate, typically either US Treasury or LIBOR, and is generally expressed in terms of basis points. An increase / (decrease) in credit spread will increase / (decrease) the value of credit protection offered by CDS and other credit derivative products. The income statement effect from such changes depends on the nature and direction of the positions held. Credit spreads may be negative where the asset is more creditworthy than the benchmark against which the spread is calculated. A wider credit spread represents decreasing creditworthiness. The range represents a diverse set of underlyings, with the lower end of the range representing credits of the highest quality (e.g., approximating the risk of LIBOR) and the upper end of the range representing greater levels of credit risk.

Discount margin (DM)

The DM spread represents the discount rates used to present value cash flows of an asset to reflect the market return required for uncertainty in the estimated cash flows. DM spreads are a rate or rates applied on top of a floating index (e.g., LIBOR) to discount expected cash flows. Generally, a decrease / (increase) in the DM in isolation would result in a higher / (lower) fair value.

The high end of the range relates to securities that are priced low within the market relative to the expected cash flow schedule. This indicates that the market is pricing an increased risk of credit loss into the security that is greater than what is being captured by the expected cash flow generation process. The low ends of the ranges are typical of funding rates on better-quality instruments.

Funding spread

Structured financing transactions are valued using synthetic funding curves that best represent the assets that are pledged as collateral for the transactions. They are not representative of where UBS can fund itself on an unsecured basis, but provide an estimate of where UBS can source and deploy secured funding with counterparties for a given type of collateral. The funding spreads are expressed in terms of basis points over or under LIBOR, and if funding spreads widen, this increases the effect of discounting.

A small proportion of structured debt instruments and non-structured fixed-rate bonds within financial liabilities designated at fair value had an exposure to funding spreads that was longer in duration than the actively traded market.

Volatility

Volatility measures the variability of future prices for a particular instrument and is generally expressed as a percentage, where a higher number reflects a more volatile instrument, for which future price movements are more likely to occur. The minimum level of volatility is 0% and there is no theoretical maximum. Volatility is a key input into option models, where it is used to derive a probability-based distribution of future prices for the underlying instrument. The effect of volatility on individual positions within the portfolio is driven primarily by whether the option contract is a long or short position. In most cases, the fair value of an option increases as a result of an increase in volatility and is reduced by a decrease in volatility. Generally, volatility used in the measurement of fair value is derived from active-market option prices (referred to as implied volatility). A key feature of implied volatility is the volatility "smile" or "skew," which represents the effect of pricing options of different option strikes at different implied volatility levels.

The volatility of interest rates reflects the range of unobservable volatilities across different currencies and related underlying interest rate levels. Volatilities of low interest rates tend to be much higher than volatilities of high interest rates. In addition, different currencies may have significantly different implied volatilities. The volatility of equity stocks, equity and other indices reflects the range of underlying stock volatilities.

Correlation

Correlation measures the interrelationship between the movements of two variables. It is expressed as a percentage between –100% and +100%, where +100% represents perfectly correlated variables (meaning a movement of one variable is associated with a movement of the other variable in the same direction) and –100% implies that the variables are inversely correlated (meaning a movement of one variable is associated with a movement of the other variable in the opposite direction). The effect of correlation on the measurement of fair value depends on the specific terms of the instruments being valued, reflecting the range of different payoff features within such instruments.

Equity-to-FX correlation is important for equity options based on a currency different than the currency of the underlying stock. Equity-to-equity correlation is particularly important for complex options that incorporate, in some manner, different equities in the projected payoff.

Equity dividend yields

The derivation of a forward price for an individual stock or index is important for measuring fair value for forward or swap contracts and for measuring fair value using option pricing models. The relationship between the current stock price and the forward price is based on a combination of expected future dividend levels and payment timings, and, to a lesser extent, the relevant funding rates applicable to the stock in question. Dividend yields are generally expressed as an annualized percentage of the share price with the lowest limit of 0% representing a stock that is not expected to pay any dividend. The dividend yield and timing represents the most significant parameter in determining fair value for instruments that are sensitive to an equity forward price.

Note 24 Fair value measurement (continued)

g) Level 3 instruments: sensitivity to changes in unobservable input assumptions

The table below summarizes those financial assets and liabilities classified as Level 3 for which a change in one or more of the unobservable inputs to reflect reasonably possible alternative assumptions would change fair value significantly, and the estimated effect thereof.

The table shown presents the favorable and unfavorable effects for each class of financial assets and liabilities for which the potential change in fair value is considered significant. The sensitivity data shown below presents an estimation of valuation uncertainty based on reasonably possible alternative values for Level 3 inputs at the balance sheet date and does not represent the estimated effect of stress scenarios. Typically, these financial assets and liabilities are sensitive to a combination of inputs from Levels 1–3. Although well-defined interdependencies may exist between Levels 1–2 and Level 3 parameters (e.g., between interest rates, which are generally Level 1 or Level 2, and prepayments, which are generally Level 3), these have not been incorporated in the table. Furthermore, direct interrelationships between the Level 3 parameters discussed below are not a significant element of the valuation uncertainty.

Sensitivity data is estimated using a number of techniques, including the estimation of price dispersion among different market participants, variation in modeling approaches and reasonably possible changes to assumptions used within the fair value measurement process. The sensitivity ranges are not always symmetrical around the fair values as the inputs used in valuations are not always precisely in the middle of the favorable and unfavorable range.

Sensitivity data is determined at a product or parameter level and then aggregated assuming no diversification benefit. The calculated sensitivity is applied to both the outright position and any related Level 3 hedge. The main interdependencies between sensitivities of different Level 3 products to a single unobservable input parameter have been included in the basis of netting exposures within the calculation. Aggregation without allowing for diversification involves the simple summation of individual results with the total sensitivity, therefore representing the effect of all unobservable inputs that, if moved to a reasonably possible favorable or unfavorable level at the same time, would result in a significant change in the valuation. Diversification would incorporate estimated correlations across different sensitivity results and, as such, would result in an overall sensitivity that would be less than the sum of the individual component sensitivities. The Group believes that, while there are diversification benefits within the portfolios representing these sensitivity numbers, they are not significant to this analysis.

Sensitivity of fair value measurements to changes in unobservable input assumptions

	31.12.19		31.12.18	
USD million	Favorable changes	Unfavorable changes	Favorable changes	Unfavorable changes
Traded loans, loans designated at fair value, loan commitments and guarantees	46	(21)	99	(44)
Securities financing transactions	11	(11)	17	(11)
Auction rate securities	87	(87)	81	(81)
Asset-backed securities	35	(40)	27	(23)
Equity instruments	140	(80)	155	(94)
Interest rate derivative contracts, net	8	(17)	8	(39)
Credit derivative contracts, net	31	(35)	33	(37)
Foreign exchange derivative contracts, net	12	(8)	10	(5)
Equity / index derivative contracts, net	183	(197)	213	(225)
Other	47	(51)	19	(19)
Total	600	(547)	661	(578)

h) Level 3 instruments: movements during the period

The table on the following pages presents additional information about material Level 3 assets and liabilities measured at fair value on a recurring basis. Level 3 assets and liabilities may be hedged with instruments classified as Level 1 or Level 2 in the fair value hierarchy and, as a result, realized and unrealized gains and losses included in the table may not include the effect of related hedging activity. Furthermore, the realized and unrealized gains and losses presented within the table are not limited solely to those arising from Level 3 inputs, as valuations are generally derived from both observable and unobservable parameters.

Assets and liabilities transferred into or out of Level 3 are presented as if those assets or liabilities had been transferred at the beginning of the year.

Upon adoption of IFRS 9 on 1 January 2018, certain financial assets and liabilities were newly classified at fair value through profit or loss and were designated as Level 3 in the fair value hierarchy. Certain assets were also reclassified from *Financial assets measured at fair value through other comprehensive income* to *Financial assets at fair value not held for trading*.

Assets transferred into and out of Level 3 totaled USD 1.1 billion and USD 1.9 billion, respectively. Transfers into Level 3 mainly consisted of loans, investment fund units and equity / index contracts, reflecting decreased observability of the relevant valuation inputs. Transfers out of Level 3 mainly consisted of loans, reflecting increased observability of the relevant valuation inputs.

Liabilities transferred into and out of Level 3 totaled USD 1.4 billion and USD 3.4 billion, respectively. Transfers into and out of Level 3 mainly consisted of debt issued designated at fair value, primarily equity-linked issued debt instruments, due to decreased or increased observability, respectively, of the embedded derivative inputs.

Note 24 Fair value measurement (continued)

Movements of Level 3 instruments

USD billion	Balance as of 31 December 2017	Reclassifications and remeasurements upon adoption of IFRS 9	Balance as of 1 January 2018	Total gains / losses included in comprehensive income: Net gains / losses included in income[1]	Total gains / losses included in comprehensive income: *of which: related to Level 3 instruments held at the end of the reporting period*	Purchases	Sales	Issuances	Settlements	Transfers into Level 3	Transfers out of Level 3	Foreign currency translation
Financial assets at fair value held for trading	2.0	0.4	2.4	(0.2)	*(0.2)*	2.1	(7.1)	4.2	0.0	0.7	(0.2)	0.0
of which:												
Investment fund units	*0.6*		*0.6*	*(0.1)*	*(0.1)*	*0.2*	*(0.3)*	*0.0*	*0.0*	*0.1*	*(0.1)*	*0.0*
Corporate and municipal bonds	*0.6*		*0.6*	*0.0*	*0.0*	*0.6*	*(0.9)*	*0.0*	*0.0*	*0.5*	*0.0*	*0.0*
Loans	*0.5*	*0.4*	*0.9*	*0.1*	*0.0*	*0.9*	*(5.6)*	*4.2*	*0.0*	*0.1*	*0.0*	*0.0*
Other	*0.4*		*0.4*	*(0.1)*	*(0.1)*	*0.4*	*(0.4)*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Derivative financial instruments – assets	1.6		1.6	0.0	*0.0*	0.0	0.0	1.0	(1.5)	0.5	(0.1)	0.0
of which:												
Interest rate contracts	*0.1*		*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	*0.0*	*(0.1)*	*0.3*	*0.0*	*0.0*
Equity / index contracts	*0.7*		*0.7*	*0.0*	*0.0*	*0.0*	*0.0*	*0.8*	*(1.0)*	*0.1*	*(0.1)*	*0.0*
Credit derivative contracts	*0.6*		*0.6*	*0.0*	*0.0*	*0.0*	*0.0*	*0.3*	*(0.4)*	*0.0*	*0.0*	*0.0*
Other	*0.2*		*0.2*	*(0.1)*	*(0.1)*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Financial assets at fair value not held for trading	1.5	3.0	4.4	0.0	*0.0*	1.7	(1.9)	0.0	0.0	0.1	(0.1)	0.1
of which:												
Loans	*0.8*	*0.6*	*1.4*	*(0.2)*	*(0.2)*	*1.5*	*(1.0)*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*
Auction rate securities		*1.9*	*1.9*	*0.1*	*0.1*	*0.0*	*(0.4)*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*
Equity instruments		*0.4*	*0.4*	*0.1*	*0.1*	*0.2*	*(0.2)*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Other	*0.7*	*0.1*	*0.8*	*0.0*	*0.0*	*0.0*	*(0.4)*	*0.0*	*0.0*	*0.0*	*(0.1)*	*0.0*
Financial assets measured at fair value through other comprehensive income	0.5	(0.5)										
Derivative financial instruments – liabilities	2.9	0.0	2.9	(0.3)	*(0.2)*	0.0	0.0	1.3	(1.5)	0.3	(0.5)	0.0
of which:												
Equity / index contracts	*2.0*		*2.0*	*(0.3)*	*(0.2)*	*0.0*	*0.0*	*1.2*	*(1.2)*	*0.3*	*(0.5)*	*0.0*
Credit derivative contracts	*0.6*		*0.6*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*(0.2)*	*0.1*	*0.0*	*0.0*
Other	*0.3*	*0.0*	*0.3*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	*(0.1)*	*0.0*	*0.0*	*0.0*
Debt issued designated at fair value	11.2		11.2	0.5	*0.0*	0.0	0.0	5.8	(4.3)	2.2	(4.3)	(0.2)
Other financial liabilities designated at fair value	2.0		2.0	0.0	*0.0*	0.0	0.0	1.1	(2.0)	0.0	0.0	0.0

1 Net gains / losses included in comprehensive income are comprised of Net interest income, Other net income from financial instruments measured at fair value through profit or loss and Other income. 2 Total Level 3 assets as of 31 December 2019 were USD 7.2 billion (31 December 2018: USD 7.8 billion). Total Level 3 liabilities as of 31 December 2019 were USD 12.8 billion (31 December 2018: USD 14.3 billion).

Note 24 Fair value measurement (continued)

	Total gains / losses included in comprehensive income									
Balance as of 31 December 2018[2]	Net gains / losses included in income[1]	*of which: related to Level 3 instruments held at the end of the reporting period*	Purchases	Sales	Issuances	Settlements	Transfers into Level 3	Transfers out of Level 3	Foreign currency translation	Balance as of 31 December 2019[2]
2.0	(0.2)	*0.0*	1.2	(5.7)	4.4	0.0	0.6	(0.4)	0.0	1.8
0.4	*0.0*	*0.0*	*0.0*	*(0.4)*	*0.0*	*0.0*	*0.2*	*(0.2)*	*0.0*	*0.0*
0.7	*0.0*	*0.0*	*0.6*	*(0.6)*	*0.0*	*0.0*	*0.1*	*(0.2)*	*0.0*	*0.5*
0.7	*(0.1)*	*0.0*	*0.2*	*(4.4)*	*4.4*	*0.0*	*0.1*	*0.0*	*0.0*	*0.8*
0.2	*0.0*	*(0.1)*	*0.3*	*(0.3)*	*0.0*	*0.0*	*0.2*	*0.0*	*0.0*	*0.4*
1.4	(0.3)	*0.0*	0.0	0.0	1.0	(0.8)	0.2	(0.3)	0.0	1.3
0.4	*(0.1)*	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*(0.2)*	*0.0*	*0.3*
0.5	*(0.1)*	*0.1*	*0.0*	*0.0*	*0.6*	*(0.5)*	*0.1*	*(0.1)*	*0.0*	*0.6*
0.5	*(0.1)*	*(0.1)*	*0.0*	*0.0*	*0.2*	*(0.2)*	*0.1*	*(0.1)*	*0.0*	*0.4*
0.0	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
4.4	0.0	*0.0*	1.2	(0.8)	0.0	0.0	0.3	(1.2)	0.0	4.0
1.8	*0.0*	*0.0*	*0.7*	*(0.2)*	*0.0*	*0.0*	*0.3*	*(1.2)*	*0.0*	*1.2*
1.7	*0.0*	*0.0*	*0.0*	*(0.1)*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*1.5*
0.5	*0.0*	*0.0*	*0.1*	*(0.2)*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.5*
0.5	*0.0*	*0.0*	*0.5*	*(0.2)*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.7*
2.2	0.0	*0.0*	0.0	0.0	0.8	(1.0)	0.3	(0.3)	0.0	2.0
1.4	*0.3*	*0.2*	*0.0*	*0.0*	*0.6*	*(0.9)*	*0.2*	*(0.2)*	*0.0*	*1.3*
0.5	*(0.1)*	*(0.1)*	*0.0*	*0.0*	*0.2*	*(0.1)*	*0.1*	*(0.1)*	*0.0*	*0.5*
0.3	*(0.1)*	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*(0.1)*	*0.0*	*0.2*
11.0	1.1	*0.7*	0.0	0.0	7.2	(7.3)	1.0	(3.1)	0.0	9.9
1.0	0.2	*0.1*	0.0	0.0	0.3	(0.8)	0.1	0.0	0.0	0.8

Note 24 Fair value measurement (continued)

i) Maximum exposure to credit risk for financial instruments measured at fair value

The tables below provide the Group's maximum exposure to credit risk for financial instruments measured at fair value and the respective collateral and other credit enhancements mitigating credit risk for these classes of financial instruments.

The maximum exposure to credit risk includes the carrying amounts of financial instruments recognized on the balance sheet subject to credit risk and the notional amounts for off-balance sheet arrangements. Where information is available, collateral is presented at fair value. For other collateral, such as real estate, a reasonable alternative value is used. Credit enhancements, such as credit derivative contracts and guarantees, are included at their notional amounts. Both are capped at the maximum exposure to credit risk for which they serve as security. The "Risk management and control" section of this report describes management's view of credit risk and the related exposures, which can differ in certain respects from the requirements of IFRS.

Maximum exposure to credit risk

	31.12.19								
		Collateral				Credit enhancements			Exposure to credit risk after collateral and credit enhancements
USD billion	Maximum exposure to credit risk	Cash collateral received	Collateral-ized by securities	Secured by real estate	Other collateral[1]	Netting	Credit derivative contracts	Guarantees	
Financial assets measured at fair value on the balance sheet									
Financial assets at fair value held for trading – debt instruments[2,3]	21.9								21.9
Derivative financial instruments[4]	121.8		3.3			107.4			11.1
Brokerage receivables	18.0		17.8						0.2
Financial assets at fair value not held for trading – debt instruments[5]	55.0	0.1	16.3		0.1				38.6
Total financial assets measured at fair value	216.7	0.1	37.4	0.0	0.1	107.4	0.0	0.0	71.7
Guarantees[6]	1.0							0.3	0.7
Loan commitments[6]	6.3				3.0		0.1	0.9	2.3
Forward starting transactions, reverse repurchase and securities borrowing agreements	20.3		20.3						0.0
Total maximum exposure to credit risk not reflected on the balance sheet	27.6	0.0	20.3	0.0	3.0	0.0	0.1	1.2	3.0

	31.12.18								
		Collateral				Credit enhancements			Exposure to credit risk after collateral and credit enhancements
USD billion	Maximum exposure to credit risk	Cash collateral received	Collateral-ized by securities	Secured by real estate	Other collateral[1]	Netting	Credit derivative contracts	Guarantees	
Financial assets measured at fair value on the balance sheet									
Financial assets at fair value held for trading – debt instruments[2,3]	21.9								21.9
Derivative financial instruments[4]	126.2		4.1			110.8			11.4
Brokerage receivables	16.8	0.0	16.5						0.3
Financial assets at fair value not held for trading – debt instruments[5]	59.8		16.7		0.1				43.1
Total financial assets measured at fair value	224.8	0.0	37.3	0.0	0.1	110.8	0.0	0.0	76.6
Guarantees[6]	1.6							0.2	1.4
Loan commitments[6]	3.5				2.4		0.2	0.1	0.7
Forward starting transactions, reverse repurchase and securities borrowing agreements	8.1		8.1						0.0
Total maximum exposure to credit risk not reflected on the balance sheet	13.3	0.0	8.1	0.0	2.4	0.0	0.2	0.4	2.1

1 Includes but is not limited to life insurance contracts, inventory, mortgage loans, gold and other commodities. 2 These positions are generally managed under the market risk framework. For the purpose of this disclosure, collateral and credit enhancements were not considered. 3 Does not include investment fund units. 4 The amount shown in the "Netting" column represents the netting potential not recognized on the balance sheet. Refer to Note 25 for more information. 5 Financial assets at fair value not held for trading collateralized by securities consisted of structured loans and reverse repurchase and securities borrowing agreements. 6 The amount shown in the "Guarantees" column largely relates to sub-participations. Refer to Note 34 for more information.

Note 24 Fair value measurement (continued)

j) Financial instruments not measured at fair value

The table below provides the estimated fair values of financial instruments not measured at fair value.

Financial instruments not measured at fair value[1]

	31.12.19						31.12.18					
	Carrying amount	Fair value					Carrying amount	Fair value				
USD billion	Total	Carrying amount approximates fair value[2]	Level 1	Level 2	Level 3	Total	Total	Carrying amount approximates fair value[2]	Level 1	Level 2	Level 3	Total
Assets[3]												
Cash and balances at central banks	107.1	107.0	0.1	0.0	0.0	107.1	108.4	108.3	0.1	0.0	0.0	108.4
Loans and advances to banks	12.4	11.8	0.0	0.5	0.2	12.4	16.9	16.2	0.0	0.6	0.0	16.9
Receivables from securities financing transactions	84.2	74.0	0.0	8.6	1.6	84.2	95.3	85.0	0.0	6.9	3.4	95.4
Cash collateral receivables on derivative instruments	23.3	23.3	0.0	0.0	0.0	23.3	23.6	23.6	0.0	0.0	0.0	23.6
Loans and advances to customers	326.8	151.6	0.0	25.4	152.2	329.1	320.4	153.4	0.0	18.0	149.5	320.9
Other financial assets measured at amortized cost	23.0	5.7	8.4	6.4	2.8	23.2	22.6	5.9	8.4	5.2	2.9	22.4
Liabilities												
Amounts due to banks	6.6	5.6	0.0	0.9	0.0	6.6	11.0	8.8	0.0	1.9	0.2	11.0
Payables from securities financing transactions	7.8	7.5	0.0	0.3	0.0	7.8	10.3	10.0	0.0	0.3	0.0	10.3
Cash collateral payables on derivative instruments	31.4	31.4	0.0	0.0	0.0	31.4	28.9	28.9	0.0	0.0	0.0	28.9
Customer deposits	448.3	439.1	0.0	9.3	0.0	448.4	419.8	409.5	0.0	10.3	0.1	419.9
Debt issued measured at amortized cost	110.5	8.7	0.0	104.9	0.0	113.6	132.3	2.8	0.0	130.7	1.4	135.0
Other financial liabilities measured at amortized cost[4]	5.8	5.7	0.0	0.0	0.0	5.7	6.9	6.8	0.0	0.0	0.1	6.9

1 In line with IFRS 7 Financial Instruments: Disclosures, effective 2019, UBS no longer discloses a fair value hierarchy level for financial instruments where the carrying amount approximates fair value. Prior periods have been restated for this change. 2 Includes certain financial instruments where the carrying amount is a reasonable approximation of the fair value due to the instruments' short-term nature (instruments that are receivable or payable on demand, or with a remaining maturity (excluding the effects of callable features) of three months or less). 3 As of 31 December 2019, USD 0 billion of Loans and advances to banks, USD 1 billion of Receivables from securities financing transactions, USD 140 billion of Loans and advances to customers and USD 16 billion of Other financial assets measured at amortized cost are expected to be recovered or settled after 12 months. As of 31 December 2018, USD 0 billion of Loans and advances to banks, USD 1 billion of Receivables from securities financing transactions, USD 139 billion of Loans and advances to customers and USD 15 billion of Other financial assets measured at amortized cost were expected to be recovered or settled after 12 months. 4 Excludes lease liabilities.

The fair values included in the table above were calculated for disclosure purposes only. The valuation techniques and assumptions described below relate only to the fair value of UBS's financial instruments not measured at fair value. Other institutions may use different methods and assumptions for their fair value estimation, and therefore such fair value disclosures cannot necessarily be compared from one financial institution to another. The following principles were applied when determining fair value estimates for financial instruments not measured at fair value:

- For financial instruments with remaining maturities greater than three months, the fair value was determined from quoted market prices, if available.
- Where quoted market prices were not available, the fair values were estimated by discounting contractual cash flows using current market interest rates or appropriate yield curves for instruments with similar credit risk and maturity. These estimates generally include adjustments for counterparty credit risk or UBS's own credit.
- For short-term financial instruments with remaining maturities of three months or less, the carrying amount, which is net of credit loss allowances, is generally considered a reasonable estimate of fair value.

Note 25 Offsetting financial assets and financial liabilities

UBS enters into netting agreements with counterparties to manage the credit risks associated primarily with repurchase and reverse repurchase transactions, securities borrowing and lending, over-the-counter derivatives and exchange-traded derivatives. These netting agreements and similar arrangements generally enable the counterparties to set off liabilities against available assets received in the ordinary course of business and/or in the event that the counterparties to the transaction are unable to fulfill their contractual obligations. The right of setoff is a legal right to settle or otherwise eliminate all or a portion of an amount due by applying an amount receivable from the same counterparty against it, thus reducing credit exposure.

The table below provides a summary of financial assets subject to offsetting, enforceable master netting arrangements and similar agreements, as well as financial collateral received to mitigate credit exposures for these financial assets. The gross financial assets of the Group that are subject to offsetting, enforceable netting arrangements and similar agreements are reconciled to the net amounts presented within the associated balance sheet line, after giving effect to financial liabilities with the same counterparties that have been offset on the balance sheet and other financial assets not subject to an enforceable netting arrangement or similar agreement, as well as other out-of-scope items. Furthermore, related amounts for financial liabilities and collateral received that are not offset on the balance sheet are shown to arrive at financial assets after consideration of netting potential.

The Group engages in a variety of counterparty credit mitigation strategies in addition to netting and collateral arrangements. Therefore, the net amounts presented in the tables on this and on the next page do not purport to represent their actual credit exposure.

Financial assets subject to offsetting, enforceable master netting arrangements and similar agreements

	Assets subject to netting arrangements						Assets not subject to netting arrangements[4]	Total assets	
	Netting recognized on the balance sheet			Netting potential not recognized on the balance sheet[3]					
As of 31.12.19, USD billion	Gross assets before netting	Netting with gross liabilities[2]	Net assets recognized on the balance sheet	Financial liabilities	Collateral received	Assets after consideration of netting potential	Assets recognized on the balance sheet	Total assets after consideration of netting potential	Total assets recognized on the balance sheet
Receivables from securities financing transactions	83.2	(14.0)	69.2	(1.2)	(68.0)	0.0	15.0	15.0	84.2
Derivative financial instruments	120.2	(3.4)	116.8	(89.3)	(21.4)	6.1	5.0	11.1	121.8
Cash collateral receivables on derivative instruments[1]	26.4	(4.0)	22.4	(13.3)	(1.1)	8.0	0.9	8.9	23.3
Financial assets at fair value not held for trading	83.1	(77.5)	5.6	0.0	(5.6)	0.0	78.3	78.3	83.9
of which: reverse repurchase agreements	*83.0*	*(77.5)*	*5.4*	*0.0*	*(5.4)*	*0.0*	*0.9*	*0.9*	*6.3*
Total assets	313.0	(98.9)	214.0	(103.8)	(96.1)	14.1	99.3	113.4	313.3
As of 31.12.18, USD billion									
Receivables from securities financing transactions	88.5	(13.0)	75.5	(4.4)	(71.2)	0.0	19.8	19.8	95.3
Derivative financial instruments	124.3	(4.3)	120.0	(90.8)	(24.0)	5.2	6.2	11.4	126.2
Cash collateral receivables on derivative instruments[1]	24.6	(2.3)	22.3	(13.5)	(1.0)	7.8	1.3	9.1	23.6
Financial assets at fair value not held for trading	85.4	(77.5)	7.8	(1.4)	(6.4)	0.0	74.9	74.9	82.7
of which: reverse repurchase agreements	*85.3*	*(77.5)*	*7.8*	*(1.4)*	*(6.4)*	*0.0*	*2.1*	*2.1*	*9.9*
Total assets	322.9	(97.2)	225.7	(110.0)	(102.6)	13.0	102.2	115.2	327.9

1 The net amount of Cash collateral receivables on derivative instruments recognized on the balance sheet includes certain OTC derivatives that are net settled on a daily basis either legally or in substance under IAS 32 principles and exchange-traded derivatives that are economically settled on a daily basis. 2 The logic of the table results in amounts presented in the "Netting with gross liabilities" column corresponding directly to the amounts presented in the "Netting with gross assets" column in the liabilities table presented on the following page. Netting in this column for reverse repurchase agreements presented within the lines "Receivables from securities financing transactions" and "Financial assets at fair value not held for trading" taken together corresponds to the amounts presented for repurchase agreements in the "Payables from securities financing transactions" and "Other financial liabilities designated at fair value" lines in the liabilities table presented on the following page. 3 For the purpose of this disclosure, the amounts of financial instruments and cash collateral presented have been capped so as not to exceed the net amount of financial assets presented on the balance sheet; i.e., over-collateralization, where it exists, is not reflected in the table. 4 Includes assets not subject to enforceable netting arrangements and other out-of-scope items.

Note 25 Offsetting financial assets and financial liabilities (continued)

The table below provides a summary of financial liabilities subject to offsetting, enforceable master netting arrangements and similar agreements, as well as financial collateral pledged to mitigate credit exposures for these financial liabilities. The gross financial liabilities of UBS that are subject to offsetting, enforceable netting arrangements and similar agreements are reconciled to the net amounts presented within the associated balance sheet line, after giving effect to financial assets with the same counterparties that have been offset on the balance sheet and other financial liabilities not subject to an enforceable netting arrangement or similar agreement. Furthermore, related amounts for financial assets and collateral pledged that are not offset on the balance sheet are shown to arrive at financial liabilities after consideration of netting potential.

Financial liabilities subject to offsetting, enforceable master netting arrangements and similar agreements

	Liabilities subject to netting arrangements						Liabilities not subject to netting arrangements[4]	Total liabilities	
	Netting recognized on the balance sheet			Netting potential not recognized on the balance sheet[3]					
As of 31.12.19, USD billion	Gross liabilities before netting	Netting with gross assets[2]	Net liabilities recognized on the balance sheet	Financial assets	Collateral pledged	Liabilities after consideration of netting potential	Liabilities recognized on the balance sheet	Total liabilities after consideration of netting potential	Total liabilities recognized on the balance sheet
Payables from securities financing transactions	19.8	(14.0)	5.8	(0.8)	(5.0)	0.0	2.0	2.0	7.8
Derivative financial instruments	118.1	(3.4)	114.8	(89.3)	(16.8)	8.6	6.1	14.8	120.9
Cash collateral payables on derivative instruments[1]	34.2	(4.0)	30.1	(16.5)	(1.7)	12.0	1.3	13.3	31.4
Other financial liabilities designated at fair value	83.5	(77.6)	5.9	(0.4)	(5.6)	0.0	30.0	30.0	35.9
of which: repurchase agreements	*83.1*	*(77.6)*	*5.5*	*(0.4)*	*(5.2)*	*0.0*	*0.2*	*0.2*	*5.7*
Total liabilities	255.6	(98.9)	156.6	(107.0)	(29.0)	20.6	39.4	60.0	196.0
As of 31.12.18, USD billion									
Payables from securities financing transactions	20.6	(12.4)	8.3	(3.6)	(4.7)	0.0	2.0	2.0	10.3
Derivative financial instruments	124.1	(4.3)	119.8	(90.8)	(20.9)	8.1	5.9	14.0	125.7
Cash collateral payables on derivative instruments[1]	29.0	(2.3)	26.7	(14.2)	(1.2)	11.3	2.2	13.5	28.9
Other financial liabilities designated at fair value	86.6	(78.2)	8.4	(2.1)	(5.9)	0.4	25.2	25.6	33.6
of which: repurchase agreements	*86.1*	*(78.2)*	*7.9*	*(2.1)*	*(5.9)*	*0.0*	*1.6*	*1.6*	*9.5*
Total liabilities	260.4	(97.2)	163.2	(110.7)	(32.6)	19.8	35.4	55.2	198.5

1 The net amount of Cash collateral payables on derivative instruments recognized on the balance sheet includes certain exchange-traded derivatives that are net settled on a daily basis either legally or in substance under IAS 32 principles and exchange-traded derivatives that are economically settled on a daily basis. 2 The logic of the table results in amounts presented in the "Netting with gross assets" column corresponding to the amounts presented in the "Netting with gross liabilities" column in the assets table presented on the previous page. Netting in this column for repurchase agreements presented within the lines "Payables from securities financing transactions" and "Other financial liabilities designated at fair value" taken together corresponds to the amounts presented for reverse repurchase agreements in the "Receivables from securities financing transactions" and "Financial assets at fair value not held for trading" lines in the assets table presented on the previous page. 3 For the purpose of this disclosure, the amounts of financial instruments and cash collateral presented have been capped so as not to exceed the net amount of financial liabilities presented on the balance sheet; i.e., over-collateralization, where it exists, is not reflected in the table. 4 Includes liabilities not subject to enforceable netting arrangements and other out-of-scope items.

Note 26 Restricted and transferred financial assets

This Note provides information about restricted financial assets (Note 26a), transfers of financial assets (Note 26b and 26c) and financial assets that are received as collateral with the right to resell or repledge these assets (Note 26d).

a) Restricted financial assets

Restricted financial assets consist of assets pledged as collateral against an existing liability or contingent liability and other assets that are otherwise explicitly restricted such that they cannot be used to secure funding.

Financial assets are mainly pledged as collateral in securities lending transactions, in repurchase transactions, against loans from Swiss mortgage institutions and in connection with the issuance of covered bonds. The Group generally enters into repurchase and securities lending arrangements under standard market agreements. For securities lending, the cash received as collateral may be more or less than the fair value of the securities loaned, depending on the nature of the transaction. For repurchase agreements, the fair value of the collateral sold under an agreement to repurchase is generally in excess of the cash borrowed. Pledged mortgage loans serve as collateral for existing liabilities against Swiss central mortgage institutions and for existing covered bond issuances of USD 11,206 million as of 31 December 2019 (31 December 2018: USD 12,516 million).

Other restricted financial assets include assets protected under client asset segregation rules, assets held by the Group's insurance entities to back related liabilities to the policy holders, assets held in certain jurisdictions to comply with explicit minimum local asset maintenance requirements and assets held in consolidated bankruptcy remote entities, such as certain investment funds and other structured entities. The carrying amount of the liabilities associated with these other restricted financial assets is generally equal to the carrying amount of the assets, with the exception of assets held to comply with local asset maintenance requirements, for which the associated liabilities are greater.

Restricted financial assets

USD million	31.12.19	31.12.18
Financial assets pledged as collateral		
Financial assets at fair value held for trading	56,415	43,292
of which: assets pledged as collateral that may be sold or repledged by counterparties	*41,285*	*32,121*
Loans and advances to customers[1]	18,399	18,804
Financial assets at fair value not held for trading	188	0
Debt securities classified as Other financial assets measured at amortized cost	1,212	0
of which: assets pledged as collateral that may be sold or repledged by counterparties	*1,212*	*0*
Total financial assets pledged as collateral[2]	76,215	62,096
Other restricted financial assets		
Loans and advances to banks	3,131	5,140
Financial assets at fair value held for trading	242	3,589
Cash collateral receivables on derivative instruments	2,986	3,205
Loans and advances to customers	620	935
Financial assets at fair value not held for trading	29,676	23,514
Financial assets measured at fair value through other comprehensive income	176	171
Other	379	203
Total other restricted financial assets	37,210	36,758
Total financial assets pledged and other restricted financial assets	113,425	98,854

1 All related to mortgage loans that serve as collateral for existing liabilities against Swiss central mortgage institutions and for existing covered bond issuances. Of these pledged mortgage loans, approximately USD 6.3 billion for 31 December 2019 (31 December 2018: approximately USD 3.2 billion) could be withdrawn or used for future liabilities or covered bond issuances without breaching existing collateral requirements. 2 Does not include assets placed with central banks related to undrawn credit lines and for payment, clearing and settlement purposes (31 December 2019: USD 0.6 billion; 31 December 2018: USD 0.3 billion).

In addition to restrictions on financial assets, UBS Group AG and its subsidiaries are, in certain cases, subject to regulatory requirements that affect the transfer of dividends and capital within the Group, as well as intercompany lending. Supervisory authorities also may require entities to measure capital and leverage ratios on a stressed basis, such as the Federal Reserve Board's Comprehensive Capital Analysis and Review (CCAR) process, which may limit the relevant subsidiaries' ability to make distributions of capital based on the results of those tests.

Supervisory authorities generally have discretion to impose higher requirements or to otherwise limit the activities of subsidiaries.

Non-regulated subsidiaries are generally not subject to such requirements and transfer restrictions. However, restrictions can also be the result of different legal, regulatory, contractual, entity- or country-specific arrangements and/or requirements.

→ **Refer to "Financial and regulatory key figures for our significant regulated subsidiaries and sub-groups" in the "Significant regulated subsidiary and sub-group information" section of this report for financial information about significant regulated subsidiaries of the Group**

b) Transferred financial assets that are not derecognized in their entirety

The table below presents information for financial assets that have been transferred but are subject to continued recognition in full, as well as recognized liabilities associated with those transferred assets.

Transferred financial assets subject to continued recognition in full

USD million	31.12.19		31.12.18	
	Carrying amount of transferred assets	Carrying amount of associated liabilities recognized on balance sheet	Carrying amount of transferred assets	Carrying amount of associated liabilities recognized on balance sheet
Financial assets at fair value held for trading that may be sold or repledged by counterparties	41,285	16,671	32,121	4,674
relating to securities lending and repurchase agreements in exchange for cash received	*16,945*	*16,671*	*4,726*	*4,674*
relating to securities lending agreements in exchange for securities received	*24,082*	*0*	*26,234*	*0*
relating to other financial asset transfers	*258*	*0*	*1,161*	*0*
Financial assets at fair value not held for trading that may be sold or repledged by counterparties	188	187	0	0
Total financial assets transferred	41,473	16,858	32,121	4,674

Transactions in which financial assets are transferred, but continue to be recognized in their entirety on UBS's balance sheet include securities lending and repurchase agreements as well as other financial asset transfers. Repurchase and securities lending arrangements are, for the most part, conducted under standard market agreements and are undertaken with counterparties subject to UBS's normal credit risk control processes.

→ **Refer to Note 1a item 3e for more information about repurchase and securities lending agreements**

As of 31 December 2019, approximately 40% of the transferred financial assets were assets held for trading transferred in exchange for cash, in which case the associated recognized liability represents the amount to be repaid to counterparties. For securities lending and repurchase agreements, a haircut between 0% and 15% is generally applied to the transferred assets, which results in associated liabilities having a carrying amount below the carrying amount of the transferred assets. The counterparties to the associated liabilities presented in the table above have full recourse to UBS.

In securities lending arrangements entered into in exchange for the receipt of other securities as collateral, neither the securities received nor the obligation to return them are recognized on UBS's balance sheet, as the risks and rewards of ownership are not transferred to UBS. In cases where such financial assets received are subsequently sold or repledged in another transaction, this is not considered to be a transfer of financial assets.

Other financial asset transfers primarily include securities transferred to collateralize derivative transactions, for which the carrying amount of associated liabilities is not provided in the table above because those replacement values are managed on a portfolio basis across counterparties and product types, and therefore there is no direct relationship between the specific collateral pledged and the associated liability.

Transferred financial assets that are not subject to derecognition in full, but remain on the balance sheet to the extent of the Group's continuing involvement, were not material as of 31 December 2019 and as of 31 December 2018.

Note 26 Restricted and transferred financial assets (continued)

c) Transferred financial assets that are derecognized in their entirety with continuing involvement

Continuing involvement in a transferred and fully derecognized financial asset may result from contractual provisions in the transfer agreement or from a separate agreement with the counterparty or a third party entered into in connection with the transfer.

Purchased and retained interests in securitization vehicles

In cases where UBS has transferred assets into a securitization vehicle and retained or purchased interests therein, UBS has a continuing involvement in those transferred assets.

As of 31 December 2019, the majority of the retained continuing involvement related to securitization positions held as financial assets at fair value held for trading, primarily collateralized debt obligations, US commercial mortgage-backed securities and residential mortgage-backed securities. The fair value and carrying amount of UBS's continuing involvement related to these purchased and retained interests was USD 351 million as of 31 December 2019, and UBS recognized gains of USD 0 million in 2019 related to these positions. As of 31 December 2019, life-to-date losses of USD 1,198 million were recorded related to the positions held as of 31 December 2019.

As of 31 December 2018, the fair value and carrying amount of UBS's continuing involvement related to purchased and retained interests in securitization vehicles was USD 6 million, and UBS recognized gains of USD 3 million in 2018 related to these positions. As of 31 December 2018, life-to-date losses of USD 1,198 million were recorded related to the positions held as of 31 December 2018.

The maximum exposure to loss related to purchased and retained interests in securitization structures was USD 8 million as of 31 December 2019, compared with USD 10 million as of 31 December 2018.

Undiscounted cash outflows of USD 3 million may be payable to the transferee in future periods as a consequence of holding the purchased and retained interests. The earliest period in which payment may be required is less than one month.

d) Off-balance sheet assets received

The table below presents assets received from third parties that can be sold or repledged and that are not recognized on the balance sheet, but that are held as collateral, including amounts that have been sold or repledged.

Off-balance sheet assets received

USD million	31.12.19	31.12.18
Fair value of assets received that can be sold or repledged	475,726	483,688
received as collateral under reverse repurchase, securities borrowing and lending arrangements, derivative and other transactions[1]	*466,045*	*473,302*
received in unsecured borrowings	*9,681*	*10,385*
Thereof sold or repledged[2]	350,477	356,745
in connection with financing activities	*305,362*	*315,402*
to satisfy commitments under short sale transactions	*30,591*	*28,943*
in connection with derivative and other transactions[1]	*14,524*	*12,400*

1 Includes securities received as initial margin from its clients that UBS is required to remit to central counterparties, brokers and deposit banks through its exchange-traded derivative clearing and execution services.
2 Does not include off-balance sheet securities (31 December 2019: USD 19.6 billion; 31 December 2018: USD 24.5 billion) placed with central banks related to undrawn credit lines and for payment, clearing and settlement purposes for which there are no associated liabilities or contingent liabilities.

Note 27 Maturity analysis of financial liabilities

The contractual maturities for non-derivative and non-trading financial liabilities as of 31 December 2019 are based on the earliest date on which UBS could be contractually required to pay. The total amounts that contractually mature in each time band are also shown for 31 December 2018. Derivative positions and trading liabilities, predominantly made up of short sale transactions, are assigned to the column *Due within 1 month,* as this provides a conservative reflection of the nature of these trading activities. The contractual maturities may extend over significantly longer periods.

Maturity analysis of financial liabilities

	31.12.19					
USD billion	Due within 1 month	Due between 1 and 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after 5 years	Total
Financial liabilities recognized on balance sheet[1]						
Amounts due to banks	5.4	0.3	0.4	0.5	0.0	6.6
Payables from securities financing transactions	7.4	0.1	0.3		0.0	7.8
Cash collateral payables on derivative instruments	31.4					31.4
Customer deposits	423.0	16.1	7.3	2.5	0.0	448.9
Debt issued measured at amortized cost[2]	4.5	5.3	30.5	46.3	36.0	122.7
Other financial liabilities measured at amortized cost	4.5	0.1	0.5	2.0	2.0	9.0
of which: lease liabilities	*0.1*	*0.1*	*0.5*	*2.0*	*2.0*	*4.6*
Total financial liabilities measured at amortized cost	476.1	22.0	38.9	51.3	38.1	626.4
Financial liabilities at fair value held for trading[3,4]	30.6					30.6
Derivative financial instruments[3]	120.9					120.9
Brokerage payables designated at fair value	37.2					37.2
Debt issued designated at fair value[5]	21.3	17.4	9.5	12.7	7.6	68.5
Other financial liabilities designated at fair value	34.0	0.4	0.5	0.4	0.9	36.1
Total financial liabilities measured at fair value through profit or loss	244.0	17.8	9.9	13.1	8.5	293.3
Total	720.1	39.9	48.8	64.5	46.6	919.8
Guarantees, commitments and forward starting transactions[6]						
Loan commitments[7]	33.1	0.5	0.3	0.0		33.9
Guarantees[7]	19.1					19.1
Forward starting transactions						
Reverse repurchase agreements[7]	21.9		0.0			21.9
Securities borrowing agreements						0.0
Total	74.1	0.5	0.3	0.0	0.0	74.9

Note 27 Maturity analysis of financial liabilities (continued)

	31.12.18					
USD billion	Due within 1 month	Due between 1 and 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after 5 years	Total
Financial liabilities recognized on balance sheet[1]						
Amounts due to banks	7.9	1.0	1.6	0.5	0.0	11.0
Payables from securities financing transactions	9.5	0.6	0.3		0.0	10.4
Cash collateral payables on derivative instruments	28.9					28.9
Customer deposits	395.8	13.1	7.0	4.4	0.0	420.4
Debt issued measured at amortized cost[2]	4.6	6.3	39.9	57.6	37.8	146.2
Other financial liabilities measured at amortized cost	5.6					5.6
Total financial liabilities measured at amortized cost	452.4	21.0	48.8	62.6	37.8	622.6
Financial liabilities at fair value held for trading[3,4]	28.9					28.9
Derivative financial instruments[3]	125.7					125.7
Brokerage payables designated at fair value	38.4					38.4
Debt issued designated at fair value[5]	15.7	18.1	10.2	7.4	8.0	59.4
Other financial liabilities designated at fair value	30.0	0.4	1.1	1.2	1.0	33.7
Total financial liabilities measured at fair value through profit or loss	238.8	18.5	11.3	8.6	9.0	286.2
Total	691.2	39.5	60.1	71.2	46.8	908.8
Guarantees, commitments and forward starting transactions[6]						
Loan commitments[7]	34.1	0.3	0.3	0.0		34.7
Guarantees[7]	19.8					19.8
Forward starting transactions						
Reverse repurchase agreements[7]	9.0		0.0			9.0
Securities borrowing agreements	0.0					0.0
Total	62.9	0.3	0.4	0.0	0.0	63.6

1 Except for financial liabilities at fair value held for trading and derivative financial instruments (see footnote 3), the amounts presented generally represent undiscounted cash flows of future interest and principal payments. 2 The time bucket Due after 5 years includes perpetual loss-absorbing additional tier 1 capital instruments. 3 Carrying amount is fair value. Management believes that this best represents the cash flows that would have to be paid if these positions had to be settled or closed out. Refer to Note 28 for undiscounted cash flows of derivatives designated in hedge accounting relationships. 4 Contractual maturities of financial liabilities at fair value held for trading are: USD 30 billion due within 1 month (2018: USD 28.3 billion), USD 0.6 billion due between 1 month and 1 year (2018: USD 0.6 billion) and USD 0 billion due between 1 and 5 years (2018: USD 0 billion). 5 Future interest payments on variable-rate liabilities are determined by reference to the applicable interest rate prevailing as of the reporting date. Future principal payments that are variable are determined by reference to the conditions existing at the reporting date. 6 Comprises the maximum irrevocable amount of guarantees, commitments and forward starting transactions. 7 Loan commitments measured at fair value of USD 6.3 billion (2018: USD 3.5 billion), guarantees measured at fair value of USD 1.0 billion (2018: USD 1.6 billion) and forward starting reverse repurchase agreements measured at fair value of USD 20.3 billion (2018: USD 8.1 billion) are under the time bucket Due within 1 month.

Note 28 Hedge accounting

Derivatives transacted for hedging purposes

The Group enters into derivative transactions for the purpose of hedging risks inherent in assets, liabilities and forecast transactions. The accounting treatment of hedge transactions varies according to the nature of the instrument hedged and whether the hedge qualifies as such for accounting purposes.

Derivative transactions that qualify and are designated as hedges for accounting purposes are described under the corresponding risk category headings in this Note (interest rate risk hedge accounting and structural foreign exchange risk hedge accounting). In addition, UBS designates certain non-derivative financial assets and liabilities as hedging instruments in structural foreign exchange risk hedge accounting, as described under the corresponding risk category headings of this Note.

The Group has also executed various hedging strategies utilizing derivatives for which hedge accounting has not been applied. These economic hedges include interest rate swaps and other interest rate derivatives (e.g., futures) for day-to-day economic interest rate risk management purposes. In addition, the Group has used equity futures, options and, to a lesser extent, swaps in a variety of equity trading strategies to offset underlying equity and equity volatility exposure. The Group has also entered into credit default swaps that provide economic hedges for credit risk exposures (refer to "Credit derivatives" in Note 11). The Group's accounting policies for derivatives designated and accounted for as hedging instruments or economic hedges that do not qualify for hedge accounting are described in Note 1a item 3j, where terms used in the following sections are explained.

Interest rate risk hedge accounting

Fair value hedges: interest rate risk related to debt instruments

The Group issues various long-term, fixed-rate debt instruments measured at amortized cost, such as senior unsecured debt, covered bonds and subordinated debt, that are exposed to changes in fair value due to movements in market interest rates. Interest rate swaps are used as fair value hedges to protect against changes in the fair value of the issued debt.

Fair value hedges of interest rate risk related to debt instruments involve swapping fixed cash flows associated with the debt issued to floating cash flows by entering into interest rate swaps that receive fixed and pay floating cash flows. The variable future cash flows are based on the following benchmark rates: USD LIBOR, CHF LIBOR, EURIBOR, GBP LIBOR, AUD LIBOR, JPY LIBOR and SGD LIBOR.

The issued debt and interest rate swaps are designated in a fair value hedge relationship. The notional of the designated hedging instrument matches the notional of the hedged item.

The hedged risk is determined as the change in the fair value of the debt issued arising solely from changes in the designated benchmark interest rate (e.g., one-month or three-month LIBOR). Such change is usually the largest component of the overall change in the fair value of the hedged position in transaction currency.

Hedge effectiveness is assessed by comparing changes in the fair value of the debt issued attributable to changes in the designated benchmark interest rate with the changes in the fair value of the interest rate swaps.

Hedge ineffectiveness can arise from different curves used for the discounting of the hedging instruments and the hedged items, or from mismatches of critical terms between fixed-term lending products and hedging interest rate swaps.

Hedging instruments and hedged items

USD million	31.12.19	31.12.18
Hedging instruments: interest rate swaps		
Nominal amount	65,257	63,816
Carrying amount		
Derivative financial assets	33	27
Derivative financial liabilities		1
Hedged items: debt issued measured at amortized cost		
Carrying amount	67,379	63,785
of which: accumulated amount of fair value hedge adjustment	*1,099*	*(298)*

Hedge ineffectiveness

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Changes in fair value of hedging instruments	1,427	(341)	(16)
Changes in fair value of hedged items	(1,408)	329	(4)
Net gains / (losses) related to hedge ineffectiveness recognized in Other net income from financial instruments measured at fair value through profit or loss	19	(11)	(20)

Profile of the timing of the nominal amount of the hedging instrument

	31.12.19					
USD billion	Due within 1 month	Due between 1 and 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after 5 years	Total
Interest rate swaps		3	9	40	14	65

	31.12.18					
USD billion	Due within 1 month	Due between 1 and 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after 5 years	Total
Interest rate swaps			4	43	17	64

Note 28 Hedge accounting (continued)

Fair value hedges: portfolio interest rate risk related to loans

The Group has a portfolio of long-term fixed-rate mortgage loans in CHF that are measured at amortized cost and exposed to changes in the fair value attributable to movements in market interest rates. Interest rate swaps that pay a fixed rate of interest and receive a floating rate of interest are used as fair value hedges to protect against changes in the fair value of the originated loans.

The portfolio of mortgage loans and interest rate swaps are designated in a fair value hedge relationship. The notional of the designated hedging instrument matches the notional of the hedged item.

The hedging strategy involves an open portfolio of hedged items, i.e., mortgage loans. Both the hedged items and the hedging instruments are adjusted on a monthly basis to reflect changes in size and the maturity profile of the hedged portfolio. The existing hedging relationship is discontinued and a new one is designated. Changes in the portfolio are driven by new loans originated or existing loans repaid.

The hedged risk is determined as the change in the fair value of the loans arising solely from changes in the designated benchmark interest rate (e.g., one-month or three-month LIBOR). Such change is usually the largest component of the overall change in the fair value of the hedged position in transaction currency.

Hedge effectiveness is assessed by comparing changes in the fair value of the hedged portfolio of loans attributable to changes in the designated benchmark interest rate with the changes in the fair value of the interest rate swaps.

Hedge ineffectiveness can arise from different curves used for the discounting of the hedging instruments and the hedged items, or from mismatches of critical terms between fixed-term lending products and hedging interest rate swaps.

Hedging instruments and hedged items

USD million	31.12.19	31.12.18
Hedging instruments: interest rate swaps		
Nominal amount	4,493	10,318
Carrying amount		
Derivative financial assets		0
Derivative financial liabilities	14	31
Hedged items: loans and advances to customers		
Carrying amount	4,494	10,299
of which: accumulated amount of fair value hedge adjustment on the portfolio that was subject to hedge accounting[1]	*117*	*200*
of which: accumulated amount of fair value hedge adjustment, subject to amortization attributable to the portion of the portfolio that ceased to be part of hedge accounting[1]	*172*	*89*

1 Amounts presented within Other financial assets measured at amortized cost and Other financial liabilities measured at amortized cost.

Hedge ineffectiveness

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Changes in fair value of hedging instruments[1]	(38)	(22)	(10)
Changes in fair value of hedged items[1]	32	16	3
Net gains / (losses) related to hedge ineffectiveness recognized in Other net income from financial instruments measured at fair value through profit or loss	(6)	(6)	(7)

1 For the year ended 31 December 2017, the amounts included offsetting accrued interest, which had no effect on net gains / (losses) related to hedge ineffectiveness.

Note 28 Hedge accounting (continued)

Cash flow hedges of forecast transactions

The Group is exposed to variability in future interest cash flows on non-trading financial assets and liabilities that bear interest at variable rates or are expected to be refinanced or reinvested in the future, due to movements in future market rates. The amounts and timing of future cash flows, representing both principal and interest flows, are projected on the basis of contractual terms and other relevant factors, including estimates of prepayments and defaults. The aggregate principal balances and interest cash flows across all portfolios over time form the basis for identifying the non-trading interest rate risk of the Group, which is hedged with interest rate swaps, the maximum maturity of which is 10 years.

The group of forecast cash flows and interest rate swaps are designated in cash flow hedge relationships. The notional of the designated hedging instrument matches the notional of the hedged item for newly transacted swaps. For swaps that are re-designated, the ratio of the designation is determined based on the swap sensitivity.

The hedging strategy involves designation of each interest rate swap in a separate hedge relationship against a group of hedged items that share the same risk. The hedged items giving rise to the hedged cash flows are fungible and could be substituted for each other over the lifetime of the hedge. Cash flow forecasts and risk exposures are monitored and adjusted on an ongoing basis, and consequently hedging instruments are added or taken out of the program accordingly.

The hedged risk is determined as the variability of future cash flows arising solely from changes in the designated benchmark interest rate, i.e., overnight index swap rate / one-month or three-month LIBOR. Hedge effectiveness is assessed by comparing changes in the fair value of the hedged cash flows attributable to changes in the designated benchmark interest rate with the changes in the fair value of the interest rate swaps.

Hedge ineffectiveness can arise from differences in the reference index of the hedging instruments and hedged items, or from inception of the hedge relationship after the trade date of the hedging derivative.

Hedging instruments

USD million	31.12.19	31.12.18
Hedging instruments: interest rate swaps		
Nominal amount	69,443	70,149
Carrying amount		
Derivative financial assets	16	24
Derivative financial liabilities		1

Hedge ineffectiveness

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Changes in fair value of hedging instruments[1]	1,639	97	
Changes in fair value of hedged items[1]	(1,571)	(73)	
Effective portion of changes in fair value of hedging instruments recognized as Other comprehensive income	1,571	(42)	45
Ineffectiveness recognized as Other net income from financial instruments measured at fair value through profit or loss	68	25	8

1 This Note addresses the requirement of IFRS 7 effective from 1 January 2018, for which data is provided prospectively.

Other comprehensive income recognized directly in equity related to cash flow hedges

USD million	2019	2018	2017
Balance at the beginning of the year	109	360	955
Effective portion of changes in fair value of hedging instruments recognized in OCI	1,571	(42)	45
Amount reclassified to Net interest income when the hedged item affected profit / (loss), for the year ended 31 December	(175)	(294)	(843)
of which: reclassified to interest income on amortized-cost instruments[1]	*(175)*	*(293)*	
of which: reclassified to interest income on FVTPL instruments[1]	*0*	*(1)*	
Translation effects recognized directly in retained earnings	9	18	39
Income tax related to cash flow hedges	(253)	67	163
Balance at the end of the year	1,260	109	360
of which: related to hedging relationships for which hedge accounting continues to be applied[1,2]	*1,596*	*74*	
of which: related to hedging relationships for which hedge accounting is no longer applied[1,2]	*(43)*	*73*	

1 This Note addresses the requirement of IFRS 7 effective from 1 January 2018, for which data is provided prospectively. 2 Amounts are disclosed on a pre-tax basis.

Note 28 Hedge accounting (continued)

Structural foreign exchange risk hedge accounting

Hedges of net investments in foreign operations

The Group applies hedge accounting for certain net investments in foreign operations. For this purpose, foreign exchange (FX) derivatives, mainly FX forwards and FX swaps, as well as non-derivative financial assets or liabilities are used and designated as hedging instruments. The notional of the designated hedging instrument matches the notional of the hedged item.

Based on UBS's risk management strategy, the hedges are adjusted on at least a monthly basis to reflect the changes in the hedged position.

The hedged risk is determined as the change in the carrying amount of net assets of foreign operations arising solely from changes in spot foreign exchange rates. Consequently, the Group only designates the spot element of the FX forwards as hedging instruments. Changes in the fair value of the hedging instruments attributable to changes in forward points and the effect of discounting are not part of a hedge accounting designation. These amounts, therefore, do not form part of the effectiveness assessment and are recognized directly in profit or loss.

The effective portion of gains and losses of these FX swaps, i.e., the spot element, is transferred directly to OCI to offset foreign currency translation (FCT) gains and losses on the net investments in foreign branches and subsidiaries. As such, these FX swaps hedge the structural FX exposure, resulting in the accumulation of FCT movements at the level of individual foreign branches and subsidiaries, which make up the total FCT OCI of the Group.

When UBS designates as hedging instruments certain non-derivative foreign currency financial assets and liabilities of foreign branches or subsidiaries, the FX translation difference recorded in FCT OCI of the non-derivative hedging instrument of one foreign entity offsets the structural FX exposure of another foreign entity. Therefore, the aggregated FCT OCI of the Group is unchanged from this hedge designation.

Due to the fact that only the spot element of hedging instruments is designated in hedging relationships, ineffectiveness is unlikely unless the hedged net assets fall below the designated hedged amount. The exceptions are hedges where the hedging currency is not the same as the currency of the foreign operation, where the currency basis may cause ineffectiveness.

Hedging instruments

USD million	31.12.19	31.12.18
Hedging instruments: derivative financial instruments		
Nominal amount	11,992	11,537
Carrying amount		
Derivative financial assets	9	56
Derivative financial liabilities	171	48
Hedging instruments: non-derivative foreign currency assets and liabilities		
Nominal amount	217	229
Carrying amount		
Receivables from securities financing transactions	109	115
Payables from securities financing transactions	109	115

Hedge ineffectiveness

	For the year ended	
USD million	31.12.19	31.12.18
Changes in fair value of hedging instruments	(142)	205
Changes in fair value of hedged items	134	(205)
Effective portion of changes in fair value of hedging instruments recognized in Foreign currency translation OCI	(134)	181
Ineffectiveness recognized as Other net income from financial instruments measured at fair value through profit or loss	(8)	24

Note 28 Hedge accounting (continued)

Foreign currency translation reserve

USD million	31.12.19	31.12.18	31.12.17
Foreign currency translation reserve	4,028	3,924	4,466
of which: effective portion of changes in fair value of hedging instruments related to investment in subsidiaries[1]	*643*	*777*	
of which: for which hedge accounting continues to be applied[1]	*386*	*521*	
of which: for which hedge accounting is no longer applied[1]	*257*	*255*	
Effective portion of changes in fair value of hedging instruments reclassified to Other income upon disposal of investment for the year ended[1]	(14)	2	

1 This Note addresses the requirement of IFRS 7 effective from 1 January 2018, for which data is provided prospectively.

Undiscounted cash flows

The table below provides undiscounted cash flow information for derivative instruments designated in hedge accounting relationships.

Derivatives designated in hedge accounting relationships (undiscounted cash flows)

	2019						
USD billion	On demand	Due within 1 month	Due between 1 and 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after 5 years	Total
Interest rate swaps[1]							
FX swaps / forwards							
Cash inflows		6	5	0			11
Cash outflows		6	5	0			11
Net cash flows		0	0	0			0

	2018						
USD billion	On demand	Due within 1 month	Due between 1 and 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after 5 years	Total
Interest rate swaps[1]							
FX swaps / forwards							
Cash inflows		9	2				11
Cash outflows		9	2				11
Net cash flows		0	0				0

1 Undiscounted cash inflows and cash outflows of interest rate swaps were not material as the majority of interest rate swaps designated in hedge accounting relationships are legally settled on a daily basis.

Interest rate benchmark reform

As of 1 October 2019, the Group early adopted the amendments to IAS 39 and IFRS 7 related to interest rate benchmark reform published by the IASB in September 2019.

The significant interest rate benchmarks to which the Group's hedging relationships are exposed are stated in the "Interest rate risk hedge accounting" section of this Note.

The Group established a cross-divisional, cross-regional governance structure and change program to address the scale and complexity of the transition to alternative reference rates (ARRs).

As all fair value hedges are directly affected by the interest rate benchmark reform, the relief is applied to all of the disclosed fair value hedges in this Note.

Hedges of net investments in foreign operations are not affected by the amendments.

UBS also applies the amendments to those cash flow hedge relationships where the hedged risk is LIBOR. The following table provides details on the nominal amount and carrying amount of the hedging instruments in those hedging relationships.

Cash flow hedges of forecast transactions referencing LIBOR

USD million	31.12.19
Hedging instruments: interest rate swaps	
Nominal amount	16,462
Carrying amount	
Derivative financial assets	0
Derivative financial liabilities	0

Note 29 Pension and other post-employment benefit plans

The table below provides a breakdown of expenses related to pension and other post-employment benefit plans recognized in the income statement within *Personnel expenses*.

Income statement – expenses related to pension and other post-employment benefit plans

USD million	31.12.19	31.12.18	31.12.17
Net periodic expenses for defined benefit plans	461	188	481
of which: related to major pension plans[1]	*440*	*186*	*460*
of which: Swiss plan[2]	*417*	*153*	*414*
of which: UK plan	*3*	*11*	*15*
of which: US and German plans	*21*	*22*	*31*
of which: related to post-employment medical insurance plans[3]	*2*	*(11)*	*3*
of which: related to remaining plans and other expenses[4]	*18*	*13*	*17*
Expenses for defined contribution plans[5]	326	268	243
of which: UK plans	*82*	*80*	*72*
of which: US plan	*173*	*127*	*110*
of which: remaining plans	*71*	*61*	*61*
Total pension and other post-employment benefit plan expenses[6]	787	457	723

1 Refer to Note 29a for more information. 2 Changes to the Swiss pension plan in 2018 resulted in a pre-tax gain of USD 241 million related to past service. Refer to Note 29a for more information on these changes. 3 Refer to Note 29b for more information. 4 Other expenses include differences between actual and estimated performance award accruals. 5 Refer to Note 29c for more information. 6 Refer to Note 6.

The table below provides a breakdown of amounts recognized in *Other comprehensive income* for defined benefit plans.

Other comprehensive income – gains / (losses) on defined benefit plans

USD million	31.12.19	31.12.18	31.12.17
Major pension plans[1]	(135)	(230)	253
of which: Swiss plan	*(22)*	*(352)*	*(79)*
of which: UK plan	*(78)*	*130*	*304*
of which: US and German plans	*(35)*	*(8)*	*28*
Post-employment medical insurance plans[2]	(3)	7	1
Remaining plans	(8)	3	31
Gains / (losses) recognized in other comprehensive income, before tax	(146)	(220)	286
Tax (expense) / benefit relating to defined benefit plans recognized in other comprehensive income	(41)	276	11
Gains / (losses) recognized in other comprehensive income, net of tax[3]	(186)	56	296

1 Refer to Note 29a for more information. 2 Refer to Note 29b for more information. 3 Refer to the "Statement of comprehensive income."

Note 29 Pension and other post-employment benefit plans (continued)

UBS recognizes assets and liabilities with respect to defined benefit plans within *Other non-financial assets* and *Other non-financial liabilities*.

As of 31 December 2019 and 31 December 2018, the Swiss pension plan was in a surplus situation. However, a surplus is only recognized on the balance sheet to the extent that it does not exceed the estimated future economic benefit. Since the estimated future economic benefit was zero as of 31 December 2019 and 31 December 2018, no net defined benefit pension asset was recognized on the balance sheet.

The table below provides a breakdown of the assets and liabilities recognized on the balance sheet within *Other non-financial assets* and *Other non-financial liabilities* related to defined benefit plans.

Balance sheet – net defined benefit pension and post-employment asset

USD million	31.12.19	31.12.18
Major pension plans[1]	9	0
of which: Swiss plan	*0*	*0*
of which: UK plan	*4*	*0*
of which: US and German plans	*5*	*0*
Total net defined benefit pension and post-employment asset[2]	9	0

1 Refer to Note 29a for more information. 2 Refer to Note 17.

Balance sheet – net defined benefit pension and post-employment liability

USD million	31.12.19	31.12.18
Major pension plans[1]	527	671
of which: Swiss plan	*0*	*0*
of which: UK plan	*0*	*160*
of which: US and German plans[2]	*527*	*511*
Post-employment medical insurance plans[3]	62	62
Remaining plans	44	42
Total net defined benefit pension and post-employment liability[4]	633	775

1 Refer to Note 29a for more information. 2 Of the total liability recognized as of 31 December 2019, USD 111 million related to US plans and USD 416 million related to German plans (31 December 2018: USD 137 million and USD 374 million, respectively). 3 Refer to Note 29b for more information. 4 Refer to Note 22.

Note 29 Pension and other post-employment benefit plans (continued)

a) Defined benefit pension plans

UBS has established defined benefit pension plans for its employees in various jurisdictions in accordance with local regulations and practices. The major plans are located in Switzerland, the UK, the US and Germany. The plans' benefits include retirement, disability and survivor benefits. The level of benefits provided depends on the specific plan rules and the level of employee compensation.

The overall investment policy and strategy for UBS's defined benefit pension plans is guided by the objective of achieving an investment return that, together with contributions, is intended to ensure that there will be sufficient assets to pay pension benefits as they fall due, while also mitigating various risks. For the plans with assets, i.e., funded plans, the investment strategies are managed under local laws and regulations in each jurisdiction. The asset allocation is determined by the governance body with reference to the current and expected economic and market conditions and in consideration of specific asset class risk in the risk profile. Within this framework, UBS ensures that the fiduciaries consider how the asset investment strategy correlates with the maturity profile of the plan liabilities and the respective potential effect on the funded status of the plans, including potential short-term liquidity requirements.

The defined benefit obligations (DBOs) for all of UBS's defined benefit pension plans are directly affected by changes in yields of high-quality corporate bonds quoted in an active market in the currency of the respective pension plan, as the applicable discount rate used to determine the DBO is based on these yields. For the funded plans, the pension assets are invested in a diversified portfolio of financial assets, including real estate, bonds, investment funds and cash, across geographic regions, to achieve a balance of risk and return. Under IFRS, volatility arises in each pension plan's net asset / liability position because the fair value of the plan's financial assets is not fully correlated to movements in the value of the plan's DBO. Specific asset-liability matching strategies for each pension plan are independently determined by the responsible governance body. The net asset / liability volatility for each plan is dependent on the specific financial assets chosen by each plan's governance body. For certain pension plans, a liability-driven investment approach is applied to a portion of the plan assets to reduce potential volatility. UBS's general principle is to ensure that the plans are adequately funded on the basis of actuarial valuations. Local pension regulations are the primary drivers for determining when contributions are required.

Swiss pension plan

The Swiss pension plan covers employees of UBS AG and employees of companies having close economic or financial ties with UBS AG, and exceeds the minimum benefit requirements under Swiss pension law.

Contributions to the pension plan are paid by both the employer and the employees. The Swiss pension plan allows employees to choose the level of contributions paid by them. Employee contributions are calculated as a percentage of the contributory salary and are deducted monthly. The percentages deducted from salary depend on age and choice of contribution category and vary between 2.5% and 13.5% of contributory base salary and between 0% and 9% of contributory variable compensation. Depending on the age of the employee, UBS pays a contribution that ranges between 6.5% and 27.5% of contributory base salary and between 2.8% and 9% of contributory variable compensation. UBS also pays risk contributions that are used to finance benefits paid out in the event of death and disability.

The plan benefits include retirement, disability and survivor benefits. The pension plan offers to members at the normal retirement age of 65 a choice between a lifetime pension with or without full restitution and a partial or full lump sum payment. Participants can choose to continue employment and correspondingly remain active members in the pension plan until the age of 70 at the latest or draw early retirement benefits starting from the age of 58. Employees have the opportunity to make additional purchases of benefits to fund early retirement benefits (Plan 58+).

The pension amount payable is a result of the conversion rate applied on the accumulated balance of the individual plan participant's pension account at the retirement date. The accumulated balance of each individual plan participant's pension account is based on credited vested benefits transferred from previous employers, purchases of benefits, and the employee and employer contributions that have been made to the pension account of each individual plan participant, as well as the interest accrued on the accumulated balance. The interest rate accrued is defined annually by the Pension Foundation Board.

Although the Swiss pension plan is based on a defined contribution promise under Swiss pension law, it is accounted for as a defined benefit plan under IFRS, primarily because of the obligation to accrue interest on the pension accounts and the payment of lifetime pension benefits.

The Swiss pension plan is governed by a Pension Foundation Board. The responsibilities of this board are defined by Swiss pension law and by the plan rules. An actuarial valuation under Swiss pension law is performed regularly. According to Swiss pension law, a temporary limited underfunding is permitted. However, should an underfunded situation occur, the Pension Foundation Board is required to take the necessary measures such that full funding can be expected to be restored within a maximum period of 10 years. If a Swiss pension plan were to become significantly underfunded on a Swiss pension law basis, additional employer and employee contributions could be required. In this situation, the risk is shared between employer and employees, and the employer is not legally obliged to cover more than 50% of the additional contributions required. As of 31 December 2019, the Swiss pension plan had a technical funding ratio under Swiss pension law of 127.1% (31 December 2018: 124.2%).

The investment strategy of the Swiss plan is implemented on the basis of a multi-level investment and risk management process and complies with Swiss pension law, including the rules and regulations relating to diversification of plan assets. These rules, among others, specify restrictions on the composition of plan assets; e.g., there is a limit of 50% for investments in equities. The investment strategy of the Swiss plan is aligned with the defined risk budget set out by the Pension Foundation Board. The risk budget is determined on the basis of regularly performed asset and liability management analyses. In order to implement the risk budget, the Swiss plan may use direct investments, investment funds and derivatives. To mitigate foreign currency risk, a specific currency hedging strategy is in place. The Pension Foundation Board strives for a medium- and long-term balance between assets and liabilities.

As of 31 December 2019, the Swiss pension plan was in a surplus situation on an IFRS measurement basis, as the fair value of plan assets exceeded the DBO by USD 3,724 million (31 December 2018: surplus of USD 3,274 million). However, a surplus is only recognized on the balance sheet to the extent that it does not exceed the estimated future economic benefit, which equals the difference between the present value of the estimated future service cost and the present value of the estimated future employer contributions. The maximum future economic benefit is highly variable based on changes in the discount rate. As of both 31 December 2019 and 31 December 2018, the estimated future economic benefit was zero and hence no net defined benefit asset was recognized on the balance sheet. As of 31 December 2019, the difference between the pension plan surplus and the estimated future economic benefit, i.e., the asset ceiling effect, was USD 3,724 million (31 December 2018: USD 3,274 million).

In the fourth quarter of 2019, UBS established an enhanced methodology for measuring the estimated future economic benefits available under the Swiss pension plan, which limits the amount of any surplus recognized in accordance with IFRS, i.e., the asset ceiling calculation. Under the revised approach, which will come into effect in the first quarter of 2020, future service cost is measured individually for each future year, considering the individually applicable discount rate. In addition, an enhanced discount curve methodology will be adopted, utilizing the FINMA-published ultimate forward rate, which represents the average long-term historical real rate plus expected inflation over the long-dated periods where discount rates are unobservable. Application of this approach is expected to reduce the sensitivity in the quarterly asset ceiling calculation to short-term interest rates, resulting in lower variability in the calculation and accordingly the resulting recognition / derecognition of the Swiss pension plan surplus in *Other comprehensive income*. No changes have been made to the methodology for measuring the defined benefit obligation.

Changes to the Swiss pension plan

As a result of the effects of continuing low and in some cases negative interest rates, diminished investment return expectations and increasing life expectancy, the pension fund of UBS in Switzerland and UBS agreed to measures that have taken effect from the start of 2019 to support the long-term financial stability of the Swiss pension fund. As a result, the conversion rate was lowered, the regular retirement age was increased from 64 to 65, employee contributions were increased from a range of 1% and 13.5% of the contributory base salary to a range of 2.5% and 13.5% of the contributory base salary, and savings contributions start from age 20 instead of the previous starting age of 25. Pensions already in payment on 1 January 2019 were not affected by these measures.

To mitigate the effects of the reduction of the conversion rate on future pensions, UBS will make a payment to employees' retirement assets in the Swiss pension fund of up to USD 746 million in three installments in 2020, 2021 and 2022.

In accordance with IFRS, these measures led to a reduction in the pension obligation recognized by UBS, resulting in a pre-tax gain of USD 241 million in 2018. In addition, 2018 service costs were lower by USD 59 million due to the decrease in benefits. These effects were recognized as a reduction in *Personnel expenses* within the income statement across the business divisions and Corporate Center, with a corresponding effect in *Other comprehensive income*, as the Swiss pension plan was in a surplus situation that could not be recognized due to the IFRS asset ceiling restriction. If the Swiss pension plan remains in an asset ceiling position, the three payments in 2020, 2021 and 2022, adjusted for expected forfeitures, are expected to reduce total equity by USD 641 million, with no effect on the income statement.

The first installment and the regular employer contributions expected to be made to the Swiss pension plan in 2020 are estimated to be USD 234 million and USD 466 million, respectively.

UK pension plan

The UK plan is a career-average revalued earnings scheme, and benefits increase automatically based on UK price inflation. The normal retirement age for participants in the UK plan is 60. Since 2000, the UK plan has been closed to new entrants and, since 2013, pension plan participants are no longer accruing benefits for current or future service. Employees instead participate in the UK defined contribution plan.

The governance responsibility for the UK plan lies jointly with the Pension Trustee Board, which is required under local pension laws, and UBS. The employer contributions to the pension fund reflect agreed-upon deficit funding contributions, which are determined on the basis of the most recent actuarial valuation using assumptions agreed by the Pension Trustee Board and UBS. In the event of underfunding, UBS and the Pension Trustee Board must agree on a deficit recovery plan within statutory deadlines. In 2019, UBS made deficit funding contributions of USD 242 million to the UK plan. In 2018, UBS did not make any deficit funding contributions.

Note 29 Pension and other post-employment benefit plans (continued)

The plan assets are invested in a diversified portfolio of financial assets. A liability-driven investment approach is applied, as a portion of the plan assets is invested in inflation-indexed bonds that provide a partial hedge against price inflation. If price inflation increases, the DBO is likely to increase by more than the change in the fair value of plan assets, which would result in an increase in the net defined benefit liability. Plan rules and local pension legislation cap the level of inflationary increase that can be applied to plan benefits.

As the plan is obligated to provide guaranteed lifetime pension benefits to plan participants upon retirement, increases in life expectancy will result in an increase in the plan's liabilities. The sensitivity to changes in life expectancy is particularly high in the UK plan as the pension benefits are indexed to price inflation.

As of 31 December 2019, the UK plan was in a surplus situation on an IFRS measurement basis as the fair value of plan assets exceeded the DBO by USD 4 million (31 December 2018: deficit of USD 160 million).

Total contributions expected to be made to the UK defined benefit pension plan in 2020 are estimated at USD 13 million, subject to regular funding reviews during the year.

In addition, UBS and the Pension Trustee Board have entered into an arrangement whereby a collateral pool was established to provide security for the pension fund. The value of the collateral pool as of 31 December 2019 was USD 364 million and includes corporate bonds and government-related debt instruments. The Pension Trustee Board and UBS may agree adjustments to the collateral pool in the future. The arrangement provides the Pension Trustee Board dedicated access to a pool of assets in the event of UBS's insolvency or not paying a required deficit funding contribution.

US pension plans

There are two distinct major defined benefit pension plans in the US, both with a normal retirement age of 65. Since 1998 and 2001, respectively, the plans have been closed to new entrants, who instead can participate in defined contribution plans.

One of the major defined benefit pension plans is a contribution-based plan in which each participant accrues a percentage of salary in a pension account. The pension account is credited annually with interest based on a rate that is linked to the average yield on one-year US government bonds. For the other major defined benefit pension plan, retirement benefits accrue based on the career-average earnings of each individual plan participant. Former employees with vested benefits have the option to take a lump sum payment or a lifetime annuity commencing early or at retirement age.

As required under local state pension laws, both plans have fiduciaries who, together with UBS, are responsible for the governance of the plans. UBS regularly reviews the contribution strategy for these plans, considering local statutory funding rules and the cost of any premiums that must be paid to the Pension Benefit Guaranty Corporation for having an underfunded plan. In 2019, the contributions made by UBS were USD 29 million (2018: USD 42 million).

The plan assets for both plans are invested in a diversified portfolio of financial assets. Each pension plan's fiduciaries are responsible for the investment decisions with respect to the plan assets. Both US plans apply a liability-driven investment approach to support the volatility management in the net asset / liability position. Derivative instruments may be employed to manage volatility.

The employer contributions expected to be made to the US defined benefit pension plans in 2020 are estimated at USD 9 million.

German pension plans

There are two different defined benefit pension plans in Germany, and both are contribution-based plans. No plan assets are set aside to fund these plans, and benefits are paid directly by UBS. The normal retirement age for the participants in the German plans is 65. Within the larger of the two plans, each participant accrues a percentage of salary in a pension account. The accumulated account balance of the plan participant is credited on an annual basis with guaranteed interest at a rate of 5%. In the other plan, amounts are accrued annually based on employee elections related to variable compensation. For this plan, the accumulated account balance is credited on an annual basis with a guaranteed interest rate of 6% for amounts accrued before 2010, of 4% for amounts accrued from 2010 to 2017 and of 0.9% for amounts accrued after 2017. Both plans are regulated under German pension law, under which the responsibility to pay pension benefits when they are due rests entirely with UBS. For these plans, a portion of the pension payments is directly increased in line with price inflation.

The benefits expected to be paid by UBS to the participants of the German plans in 2020 are estimated at USD 10 million.

Financial information by plan

The tables on the following pages provide an analysis of the movement in the net asset / liability recognized on the balance sheet for defined benefit pension plans, as well as an analysis of amounts recognized in net profit and in *Other comprehensive income*.

Note 29 Pension and other post-employment benefit plans (continued)

Defined benefit pension plans

USD million	Swiss plan		UK plan		US and German plans		Total	
	2019	2018	2019	2018	2019	2018	2019	2018
Defined benefit obligation at the beginning of the year	22,566	23,419	3,192	3,744	1,679	1,816	27,437	28,978
Current service cost	409	405	0	0	6	7	415	413
Interest expense	200	151	92	93	59	55	351	299
Plan participant contributions	240	218	0	0	0	0	240	218
Remeasurements	1,728	(242)	361	(266)	185	(69)	2,275	(577)
of which: actuarial (gains) / losses due to changes in demographic assumptions	*(196)*	*0*	*(26)*	*(18)*	*3*	*(5)*	*(220)*	*(23)*
of which: actuarial (gains) / losses due to changes in financial assumptions	*1,641*	*(639)*	*421*	*(257)*	*179*	*(69)*	*2,241*	*(964)*
of which: experience (gains) / losses[1]	*284*	*397*	*(34)*	*8*	*4*	*5*	*254*	*410*
Past service cost related to plan amendments	0	(241)	0	4	0	0	0	(237)
Curtailments	0	(20)	0	0	0	0	0	(20)
Benefit payments	(1,046)	(954)	(135)	(202)	(102)	(112)	(1,283)	(1,268)
Foreign currency translation	399	(170)	144	(181)	(8)	(18)	535	(369)
Defined benefit obligation at the end of the year	24,496	22,566	3,654	3,192	1,820	1,679	29,970	27,437
of which: amounts owed to active members	*11,577*	*10,452*	*164*	*146*	*235*	*226*	*11,976*	*10,823*
of which: amounts owed to deferred members	*0*	*0*	*1,559*	*1,434*	*675*	*606*	*2,233*	*2,040*
of which: amounts owed to retirees	*12,918*	*12,114*	*1,931*	*1,612*	*911*	*847*	*15,760*	*14,574*
Fair value of plan assets at the beginning of the year	25,839	26,656	3,032	3,469	1,168	1,265	30,039	31,390
Return on plan assets excluding amounts included in interest income	2,059	(523)	284	(136)	150	(77)	2,492	(736)
Interest income	233	177	89	86	47	44	369	306
Employer contributions	452	505	242	0	38	51	732	556
Plan participant contributions	240	218	0	0	0	0	240	218
Benefit payments	(1,046)	(954)	(135)	(202)	(102)	(112)	(1,283)	(1,268)
Administration expenses, taxes and premiums paid	(11)	(11)	0	0	(2)	(3)	(13)	(14)
Foreign currency translation	453	(228)	146	(185)	0	0	599	(412)
Fair value of plan assets at the end of the year	28,219	25,839	3,658	3,032	1,299	1,168	33,176	30,039
Asset ceiling effect at the beginning of the year	3,274	3,237	0	0	0	0	3,274	3,237
Interest expense on asset ceiling effect	30	23	0	0	0	0	30	23
Asset ceiling effect excluding interest expense and foreign currency translation on asset ceiling effect	353	71	0	0	0	0	353	71
Foreign currency translation	67	(58)	0	0	0	0	67	(58)
Asset ceiling effect at the end of the year	3,724	3,274	0	0	0	0	3,724	3,274
Net defined benefit asset / (liability)	0	0	4	(160)	(521)	(511)	(518)	(671)
Movement in the net asset / (liability) recognized on the balance sheet								
Net asset / (liability) recognized on the balance sheet at the beginning of the year	0	0	(160)	(275)	(511)	(550)	(671)	(825)
Net periodic expenses recognized in net profit	(417)	(153)	(3)	(11)	(21)	(22)	(440)	(186)
Gains / (losses) recognized in other comprehensive income	(22)	(352)	(78)	130	(35)	(8)	(135)	(230)
Employer contributions	452	505	242	0	38	51	732	556
Foreign currency translation	(13)	0	2	(4)	8	18	(3)	14
Net asset / (liability) recognized on the balance sheet at the end of the year	0	0	4	(160)	(521)	(511)	(518)	(671)
Funded and unfunded plans								
Defined benefit obligation from funded plans	24,496	22,566	3,654	3,192	1,319	1,219	29,469	26,976
Defined benefit obligation from unfunded plans	0	0	0	0	501	460	501	460
Plan assets	28,219	25,839	3,658	3,032	1,299	1,168	33,176	30,039
Surplus / (deficit)	3,724	3,274	4	(160)	(521)	(511)	3,206	2,603
Asset ceiling effect	3,724	3,274	0	0	0	0	3,724	3,274
Net defined benefit asset / (liability)	0	0	4	(160)	(521)	(511)	(518)	(671)

1 Experience (gains) / losses are a component of actuarial remeasurements of the defined benefit obligation that reflect the effects of differences between the previous actuarial assumptions and what has actually occurred.

Note 29 Pension and other post-employment benefit plans (continued)

Analysis of amounts recognized in net profit

USD million	Swiss plan		UK plan		US and German plans		Total	
For the year ended	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18
Current service cost	409	405	0	0	6	7	415	413
Interest expense related to defined benefit obligation	200	151	92	93	59	55	351	299
Interest income related to plan assets	(233)	(177)	(89)	(86)	(47)	(44)	(369)	(306)
Interest expense on asset ceiling effect	30	23	0	0	0	0	30	23
Administration expenses, taxes and premiums paid	11	11	0	0	2	3	13	14
Past service cost related to plan amendments	0	(241)	0	4	0	0	0	(237)
Curtailments	0	(20)	0	0	0	0	0	(20)
Net periodic expenses recognized in net profit	417	153	3	11	21	22	440	186

Analysis of amounts recognized in other comprehensive income (OCI)

USD million	Swiss plan		UK plan		US and German plans		Total	
For the year ended	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18
Remeasurement of defined benefit obligation	(1,728)	242	(361)	266	(185)	69	(2,275)	577
Return on plan assets excluding amounts included in interest income	2,059	(523)	284	(136)	150	(77)	2,492	(736)
Asset ceiling effect excluding interest expense and foreign currency translation on asset ceiling effect	(353)	(71)	0	0	0	0	(353)	(71)
Total gains / (losses) recognized in other comprehensive income, before tax	(22)	(352)	(78)	130	(35)	(8)	(135)	(230)

The table below provides information about the duration of the DBO and the timing for expected benefit payments.

	Swiss plan		UK plan		US and German plans[1]	
	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18
Duration of the defined benefit obligation (in years)	14.9	14.5	20.2	19.5	10.1	9.8
Maturity analysis of benefits expected to be paid						
USD million						
Benefits expected to be paid within 12 months	1,232	1,153	93	82	121	108
Benefits expected to be paid between 1 and 3 years	2,483	2,356	209	187	228	216
Benefits expected to be paid between 3 and 6 years	3,670	3,554	384	345	346	336
Benefits expected to be paid between 6 and 11 years	5,761	5,643	748	701	548	566
Benefits expected to be paid between 11 and 16 years	5,070	5,142	807	770	455	494
Benefits expected to be paid in more than 16 years	15,517	16,792	3,913	3,927	721	798

1 The duration of the defined benefit obligation represents a weighted average across US and German plans.

Actuarial assumptions

The measurement of each pension plan's DBO considers different actuarial assumptions. Changes in those assumptions lead to volatility in the DBO. The following significant actuarial assumptions are applied:

- Discount rate: the discount rate is based on the yield of high-quality corporate bonds quoted in an active market in the currency of the respective pension plan. Consequently, a decrease in the yield of high-quality corporate bonds increases the DBO. Conversely, an increase in the yield of high-quality corporate bonds decreases the DBO.
- Rate of salary increase: an increase in the salary of plan participants generally increases the DBO, specifically for the Swiss and German plans. For the UK plan, as the plan is closed for future service, UBS employees no longer accrue future service benefits and thus salary increases have no effect on the DBO. For the US plans, only a small percentage of the total population continues to accrue benefits for future service and therefore the effect of a salary increase on the DBO is minimal.
- Rate of pension increase: for the Swiss plan, there is no automatic indexing of pensions. Any increase would be decided by the Pension Foundation Board. For the US plans, there is also no automatic indexing of pensions. For the UK plan, pensions are automatically indexed to price inflation as per plan rules and local pension legislation. The German plans are also automatically indexed and a portion of the pensions are directly increased by price inflation. An increase in price inflation in the UK or Germany increases the respective plan's DBO.
- Rate of interest credit on retirement savings: the Swiss plan and one of the US plans have retirement saving balances that are increased annually by an interest credit rate. For each of these plans, an increase in the interest credit rate increases the plan's DBO.
- Life expectancy: most of UBS's defined benefit pension plans are obligated to provide guaranteed lifetime pension benefits. The DBO for all plans is calculated using an underlying best estimate of the life expectancy of plan participants. An increase in the life expectancy of plan participants increases the plan's DBO.

The actuarial assumptions used for the pension plans are based on the economic conditions prevailing in the jurisdiction in which they are offered.

→ **Refer to Note 1a item 7 for a description of the accounting policy for defined benefit pension plans**

Changes in actuarial assumptions

UBS regularly reviews the actuarial assumptions used in calculating its DBO to determine their continuing relevance.

Swiss pension plan

In 2019, a loss of USD 1,728 million was recognized in *Other comprehensive income* (OCI) related to the remeasurement of the DBO. This was primarily due to a market-driven decrease in the discount rate, which resulted in an OCI loss of USD 1,887 million and an experience loss of USD 284 million, reflecting the effects of differences between the previous actuarial assumptions and what actually occurred. These losses were partly offset by gains of USD 243 million resulting from a decrease in the expected rate of interest credit on retirement savings, USD 103 million due to an update in the disability assumption and USD 94 million due to an update in the turnover assumption.

In 2018, a net gain of USD 242 million was recognized in OCI related to the remeasurement of the DBO. This was primarily due to a market-driven increase in the discount rate, which resulted in an OCI gain of USD 776 million. This effect was partially offset by experience losses of USD 397 million, reflecting differences between the previous actuarial assumptions and what actually occurred, and market-driven changes to the assumed rate of interest credit on retirement savings, which resulted in a loss of USD 124 million. Changes in other assumptions were not significant.

UK pension plan

In 2019, a loss of USD 361 million was recognized in OCI related to the remeasurement of the DBO for the UK plan. This was primarily due to a market-driven decrease in the discount rate, which resulted in an OCI loss of USD 552 million. This loss was partially offset by a gain of USD 132 million due to a decrease in the expected rate of pension increase, experience gains of USD 34 million which reflect differences between the previous actuarial assumptions and what actually occurred, and a gain of USD 21 million due to an update of the mortality improvement assumption.

In 2018, a net gain of USD 266 million was recognized in OCI related to the remeasurement of the DBO for the UK plan. This was primarily due to a market-driven increase in the discount rate, which resulted in an OCI gain of USD 219 million, as well as changes in the pension increase assumption, which resulted in an OCI gain of USD 37 million.

US and German pension plans

In 2019, a loss of USD 185 million was recognized in OCI related to the remeasurement of the DBO for the US and German plans, compared with a net gain of USD 69 million in 2018. OCI gains and losses in both years were primarily driven by market-driven movements in discount rates.

Note 29 Pension and other post-employment benefit plans (continued)

The tables below show the significant actuarial assumptions used in calculating the DBO at the end of the year.

Significant actuarial assumptions

	Swiss plan		UK plan		US and German plans[1]	
In %	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18
Discount rate	0.29	0.92	2.07	2.90	2.58	3.69
Rate of salary increase	1.50	1.50	0.00	0.00	2.37	2.81
Rate of pension increase	0.00	0.00	2.92	3.10	1.80	1.50
Rate of interest credit on retirement savings	0.49	0.92	0.00	0.00	2.57	3.70

1 Represents weighted average assumptions across US and German plans.

Mortality tables and life expectancies for major plans

		Life expectancy at age 65 for a male member currently			
		aged 65		aged 45	
Country	Mortality table	31.12.19	31.12.18	31.12.19	31.12.18
Switzerland	BVG 2015 G with CMI 2016 projections	21.6	21.6	23.1	23.1
UK	S2PA with CMI 2018 projections[1]	23.3	23.4	24.5	24.6
USA	RP2014 WCHA with MP2019 projection scale[2]	22.8	22.8	24.3	24.3
Germany	Dr. K. Heubeck 2018 G	20.7	20.5	23.5	23.3

		Life expectancy at age 65 for a female member currently			
		aged 65		aged 45	
Country	Mortality table	31.12.19	31.12.18	31.12.19	31.12.18
Switzerland	BVG 2015 G with CMI 2016 projections	23.6	23.5	25.1	25.0
UK	S2PA with CMI 2018 projections[1]	25.1	25.2	26.4	26.5
USA	RP2014 WCHA with MP2019 projection scale[2]	24.4	24.4	25.9	26.0
Germany	Dr. K. Heubeck 2018 G	24.2	24.1	26.4	26.3

1 In 2018, the mortality table S2PA with CMI 2017 projections was used. 2 In 2018, the mortality table RP2014 WCHA with MP2018 projection scale was used.

Sensitivity analysis of significant actuarial assumptions

The table below presents a sensitivity analysis for each significant actuarial assumption, showing how the DBO would have been affected by changes in the relevant actuarial assumption that were reasonably possible at the balance sheet date. Unforeseen circumstances may arise, which could result in variations that are outside the range of alternatives deemed reasonably possible. Caution should be used in extrapolating the sensitivities below on the DBO as the sensitivities may not be linear.

Sensitivity analysis of significant actuarial assumptions[1]

Increase / (decrease) in defined benefit obligation	Swiss plan		UK plan		US and German plans	
USD million	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18
Discount rate						
Increase by 50 basis points	(1,505)	(1,327)	(346)	(292)	(86)	(77)
Decrease by 50 basis points	1,710	1,503	395	333	93	84
Rate of salary increase						
Increase by 50 basis points	76	68	–[2]	–[2]	1	1
Decrease by 50 basis points	(73)	(65)	–[2]	–[2]	(1)	(1)
Rate of pension increase						
Increase by 50 basis points	1,221	1,090	331	260	7	6
Decrease by 50 basis points	–[3]	–[3]	(299)	(262)	(7)	(6)
Rate of interest credit on retirement savings						
Increase by 50 basis points	175	231	–[4]	–[4]	9	9
Decrease by 50 basis points	(102)[5]	(219)	–[4]	–[4]	(9)	(9)
Life expectancy						
Increase in longevity by one additional year	886	751	154	122	51	42

1 The sensitivity analyses are based on a change in one assumption while holding all other assumptions constant, so that interdependencies between the assumptions are excluded. 2 As the plan is closed for future service, a change in assumption is not applicable. 3 As the assumed rate of pension increase was 0% as of 31 December 2019 and as of 31 December 2018, a downward change in assumption is not applicable. 4 As the UK plan does not provide interest credits on retirement savings, a change in assumption is not applicable. 5 As of 31 December 2019, 21% of retirement savings were subject to a legal minimum rate of 1.00%.

Note 29 Pension and other post-employment benefit plans (continued)

Fair value of plan assets

The tables below provide information about the composition and fair value of plan assets of the Swiss, the UK and the US pension plans.

Composition and fair value of plan assets

Swiss plan

	31.12.19				31.12.18			
	Fair value			Plan asset allocation %	Fair value			Plan asset allocation %
USD million	Quoted in an active market	Other	Total		Quoted in an active market	Other	Total	
Cash and cash equivalents	159	0	159	1	137	0	137	1
Real estate / property								
Domestic	0	3,050	3,050	11	0	2,963	2,963	11
Foreign	0	160	160	1	0	0	0	0
Investment funds								
Equity								
Domestic	701	0	701	2	628	0	628	2
Foreign	6,091	1,653	7,743	27	5,721	1,515	7,237	28
Bonds[1]								
Domestic, AAA to BBB–	3,238	0	3,238	11	2,570	0	2,570	10
Foreign, AAA to BBB–	5,880	0	5,880	21	6,194	0	6,194	24
Foreign, below BBB–	999	0	999	4	892	0	892	3
Real estate								
Foreign	0	0	0	0	0	11	11	0
Other	1,604	3,956	5,560	20	518	4,142	4,659	18
Other investments	535	194	729	3	531	18	549	2
Total fair value of plan assets	19,206	9,014	28,219	100	17,190	8,649	25,839	100

	31.12.19	31.12.18
Total fair value of plan assets	28,219	25,839
of which:[2]		
Bank accounts at UBS	*159*	*132*
UBS debt instruments	*7*	*13*
UBS shares	*21*	*25*
Securities lent to UBS[3]	*1,328*	*1,567*
Property occupied by UBS	*88*	*88*
Derivative financial instruments, counterparty UBS[3]	*10*	*34*

1 The bond credit ratings are primarily based on Standard & Poor's credit ratings. Ratings AAA to BBB– and below BBB– represent investment grade and non-investment grade ratings, respectively. In cases where credit ratings from other rating agencies were used, these were converted to the equivalent rating in Standard & Poor's rating classification. 2 Bank accounts at UBS encompass accounts in the name of the Swiss pension fund. The other positions disclosed in the table encompass both direct investments in UBS instruments and indirect investments, i.e., those made through funds that the pension fund invests in. 3 Securities lent to UBS and derivative financial instruments are presented gross of any collateral. Securities lent to UBS were fully covered by collateral as of 31 December 2019 and 31 December 2018. Net of collateral, derivative financial instruments amounted to USD 6 million as of 31 December 2019 (31 December 2018: USD 10 million).

Note 29 Pension and other post-employment benefit plans (continued)

Composition and fair value of plan assets (continued)

UK plan

	31.12.19				31.12.18			
	Fair value			Plan asset allocation %	Fair value			Plan asset allocation %
USD million	Quoted in an active market	Other	Total		Quoted in an active market	Other	Total	
Cash and cash equivalents	141	0	141	4	143	0	143	5
Bonds[1]								
Domestic, AAA to BBB–	1,810	0	1,810	49	1,604	0	1,604	53
Investment funds								
Equity								
Domestic	33	0	33	1	26	0	26	1
Foreign	916	0	916	25	658	0	658	22
Bonds[1]								
Domestic, AAA to BBB–	610	117	727	20	587	93	680	22
Domestic, below BBB–	22	0	22	1	15	0	15	0
Foreign, AAA to BBB–	310	0	310	8	258	0	258	9
Foreign, below BBB–	108	0	108	3	51	0	51	2
Real estate								
Domestic	103	18	122	3	102	28	131	4
Foreign	0	19	19	1	0	0	0	0
Insurance contracts	0	7	7	0	0	0	0	0
Derivatives	3	0	3	0	0	0	0	0
Asset-backed securities	0	6	6	0	21	2	22	1
Other investments[2]	(572)	7	(565)	(15)	(565)	9	(556)	(18)
Total fair value of plan assets	3,483	175	3,658	100	2,900	132	3,032	100

1 The bond credit ratings are primarily based on Standard & Poor’s credit ratings. Ratings AAA to BBB– and below BBB– represent investment grade and non-investment grade ratings, respectively. In cases where credit ratings from other rating agencies were used, these were converted to the equivalent rating in Standard & Poor’s rating classification. 2 Mainly relates to repurchase arrangements on UK treasury bonds.

Note 29 Pension and other post-employment benefit plans (continued)

Composition and fair value of plan assets (continued)

US plans

	31.12.19				31.12.18			
	Fair value			Plan asset allocation %	Fair value			Plan asset allocation %
USD million	Quoted in an active market	Other	Total		Quoted in an active market	Other	Total	
Cash and cash equivalents	27	0	27	2	27	0	27	2
Bonds[1]								
Domestic, AAA to BBB–	475	0	475	37	462	0	462	40
Domestic, below BBB–	2	0	2	0	2	0	2	0
Foreign, AAA to BBB–	99	0	99	8	92	0	92	8
Foreign, below BBB–	3	0	3	0	3	0	3	0
Investment funds								
Equity								
Domestic	208	0	208	16	143	0	143	12
Foreign	161	0	161	12	157	0	157	13
Bonds[1]								
Domestic, AAA to BBB–	176	0	176	14	104	0	104	9
Domestic, below BBB–	28	0	28	2	23	0	23	2
Foreign, AAA to BBB–	17	0	17	1	56	0	56	5
Foreign, below BBB–	3	0	3	0	6	0	6	1
Real estate								
Domestic	0	13	13	1	0	13	13	1
Other	69	0	69	5	64	0	64	5
Insurance contracts	0	18	18	1	0	17	17	1
Total fair value of plan assets	1,268	31	1,299	100	1,139	29	1,168	100

1 The bond credit ratings are primarily based on Standard & Poor's credit ratings. Ratings AAA to BBB– and below BBB– represent investment grade and non-investment grade ratings, respectively. In cases where credit ratings from other rating agencies were used, these were converted to the equivalent rating in Standard & Poor's rating classification.

Note 29 Pension and other post-employment benefit plans (continued)

b) Post-employment medical insurance plans

In the US and the UK, UBS offers post-employment medical insurance benefits that contribute to the health care coverage of certain employees and their beneficiaries after retirement. The UK post-employment medical insurance plan is closed to new entrants. In the US, retiree medical premiums are subsidized for eligible participants who retired before 2014. These plans are not prefunded.

In 2018, UBS announced changes to one of the US post-employment medical insurance plans that replaced the UBS retiree medical subsidy with a new subsidy to purchase medical coverage through a private Medicare exchange. This change reduced the post-employment benefit obligation by USD 14 million, resulting in a corresponding gain recognized in the income statement in 2018.

As of 31 December 2019, the net liability recognized for post-employment medical insurance plans was USD 62 million (31 December 2018: USD 62 million). An expense of USD 2 million was recognized in the income statement in 2019 (2018: gain of USD 11 million; 2017: expense of USD 3 million) and a loss of USD 3 million in *Other comprehensive income* in 2019 (2018: gain of USD 7 million; 2017: gain of USD 1 million).

The benefits expected to be paid to participants in 2020 are estimated at USD 5 million.

The measurement of each medical insurance plan's post-employment benefit obligation considers different actuarial assumptions. Reasonably possible changes in actuarial assumptions would not lead to material movements in the net liability recognized as of 31 December 2019 and as of December 2018.

c) Defined contribution plans

UBS sponsors a number of defined contribution plans in locations outside Switzerland. The locations with significant defined contribution plans are the US and the UK. Certain plans allow employees to make contributions and earn matching or other contributions from UBS. Employer contributions to defined contribution plans are recognized as an expense, which, for 2019, 2018 and 2017, amounted to USD 326 million, USD 268 million and USD 243 million, respectively.

d) Related-party disclosure

UBS is the principal provider of banking services for the pension fund of UBS in Switzerland. In this capacity, UBS is engaged to execute most of the pension fund's banking activities. These activities can include, but are not limited to, trading, securities lending and borrowing and derivative transactions. The non-Swiss UBS pension funds do not have a similar banking relationship with UBS.

Also, UBS leases certain properties that are owned by the Swiss pension fund. As of 31 December 2019, the minimum commitment toward the Swiss pension fund under the related leases was approximately USD 14 million (31 December 2018: USD 17 million).

→ **Refer to the "Composition and fair value of plan assets" table in Note 29a for more information about fair value of investments in UBS instruments held by the Swiss pension fund**

The following amounts have been received or paid by UBS from and to the pension and other post-employment benefit plans located in Switzerland, the UK and the US in respect of these banking activities and arrangements.

Related-party disclosure

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Received by UBS			
Fees	34	35	36
Paid by UBS			
Rent	4	4	5
Dividends, capital repayments and interest	11	10	10

The transaction volumes in UBS shares and UBS debt instruments and the balances of UBS shares held as of 31 December were:

Transaction volumes – UBS shares and UBS debt instruments

	For the year ended	
	31.12.19	31.12.18
Financial instruments bought by pension funds		
UBS shares (in thousands of shares)	967	889
UBS debt instruments (par values, USD million)	2	13
Financial instruments sold by pension funds or matured		
UBS shares (in thousands of shares)	1,977	547
UBS debt instruments (par values, USD million)	8	3

UBS shares held by pension and other post-employment benefit plans

	31.12.19	31.12.18
Number of shares (in thousands of shares)	15,701	16,712
Fair value (USD million)	198	207

Note 30 Employee benefits: variable compensation

a) Plans offered

The Group has several share-based and other compensation plans that align the interests of Group Executive Board (GEB) members and other employees with the interests of investors. These compensation plans are also designed to meet regulatory requirements. The most significant compensation plans are described below.

→ **Refer to Note 1a item 6 for a description of the accounting policy related to share-based and other deferred compensation plans**

Mandatory deferred compensation plans

Equity Ownership Plan (EOP)

The EOP is a mandatory deferred share-based compensation plan for all employees with total annual compensation greater than USD / CHF 300,000. Starting with performance year 2019, GEB members, Group Managing Directors (GMDs) and Vice Chairs receive Long-Term Incentive Plan (LTIP) awards instead of EOP.

EOP awards granted to GEB members and GMDs in 2019 and prior years, as well as EOP awards granted to certain other employees, will only vest if both Group and business division performance conditions are met. For awards granted in 2019 and 2020, related to the performance years 2018 and 2019, respectively, the Group performance condition is based on the average reported return on common equity tier 1 capital (RoCET1). For awards granted in 2018 and before, the Group performance condition is based on the average adjusted return on tangible equity (RoTE) excluding deferred tax assets over the performance period. Business division performance is measured on the basis of their average adjusted return on attributed equity (RoAE). For Corporate Center employees, it is measured on the basis of the average operating businesses' adjusted RoAE.

Certain awards, such as replacement awards issued outside the normal performance year cycle, may take the form of deferred cash under the EOP plan rules.

Notional shares represent a promise to receive UBS shares at vesting and do not carry voting rights during the vesting period. Awards granted generally carry a dividend equivalent that may be paid in notional shares or cash and that vests on the same terms and conditions as the awards. However, starting with awards granted in 2018 for the performance year 2017, European Banking Authority guidelines do not permit individuals who are deemed to be Material Risk Takers (MRTs) to receive dividend or interest payments on instruments awarded as deferred variable compensation. Where dividend payments are not permitted, the grant price of the EOP award is adjusted for the expected dividend yield over the vesting period to reflect the fair value of the non-dividend-bearing award.

Awards are settled by delivering UBS shares at vesting, except in jurisdictions where this is not permitted for legal or tax reasons. EOP awards generally vest in equal installments after two and three years following the granting of such awards. Awards granted to GEB members in 2019 and prior years generally vest after three, four and five years. The awards are generally forfeitable upon, among other circumstances, voluntary termination of employment with UBS.

Long-Term Incentive Plan

The LTIP is a mandatory deferred share-based compensation plan for senior leaders of the Group (i.e., GEB members, GMDs and Vice Chairs). LTIP awards are granted for the first time in 2020 as part of the performance award pool for 2019.

The final number of notional shares delivered at vesting depends on two equally weighted performance metrics: average reported return on CET1 capital (RoCET1) and relative total shareholder return (rTSR), which measures UBS's total shareholder return against an index consisting of global systemically important banks as determined by the Financial Stability Board. These performance metrics are separately valued as of the date of grant and (re-)assessed over a three-year performance period starting in the year of grant. For both metrics there is a threshold level, which would result in a 33% payout, and a maximum level, which would result in a 100% payout. Any performance between the threshold and the maximum level would result in a linear payout between 33% and 100%.

The final number of shares as determined at the end of the three-year performance period will vest in three equal installments in each of the three years following the performance period for GEB members, and cliff-vest in the first year following the performance period for GMDs and Vice Chairs. The awards are generally forfeitable upon, among other circumstances, voluntary termination of employment with UBS.

In general, the form of the equity awards (notional shares), the entitlement to dividend equivalents and the settlement method is the same as for EOP awards.

Deferred Contingent Capital Plan (DCCP)

The DCCP is a mandatory deferred compensation plan for all employees with total annual compensation greater than USD / CHF 300,000.

DCCP awards take the form of notional additional tier 1 (AT1) capital instruments, which, at the discretion of UBS, can be settled in either a cash payment or a perpetual, marketable AT1 capital instrument. DCCP awards vest in full after five years, and up to seven years for UK senior management functions, unless there is a trigger event.

Awards are forfeited if a viability event occurs, i.e., if FINMA notifies the firm in writing that the DCCP awards must be written down to prevent an insolvency, bankruptcy or failure of UBS, or if UBS receives a commitment of extraordinary support from the public sector that is necessary to prevent such an event. Additionally, they are also written down if the Group's common equity tier 1 capital ratio falls below 10% for GEB members and below 7% for all other employees. As an additional performance condition, GEB members forfeit 20% of their award for each loss-making year during the vesting period.

Interest payments on DCCP awards are paid at the discretion of UBS. Where interest payments are not permitted, such as for MRTs, the DCCP award reflects the fair value of the granted non-interest-bearing award.

The awards are generally forfeitable upon, among other circumstances, voluntary termination of employment with UBS.

Asset Management EOP

In order to align deferred compensation of certain Asset Management employees with the performance of the investment funds they manage, awards are granted to such employees in the form of cash-settled notional investment funds. The amount delivered depends on the value of the underlying investment funds at the time of vesting. The awards are generally forfeitable upon, among other circumstances, voluntary termination of employment with UBS.

Financial advisor variable compensation

In line with market practice for US wealth management businesses, the compensation for US financial advisors in Global Wealth Management is comprised of production payout and deferred compensation awards. Production payout is primarily based on compensable revenue and is paid monthly.

Financial advisors may also qualify for deferred compensation awards, which generally vest over a six-year period. The awards are based on strategic performance measures, including production, length of service with the firm and net new business. Production payout rates and deferred compensation awards may be reduced for, among other things, errors, negligence or carelessness, or a failure to comply with the firm's rules, standards, practices and policies or applicable laws and regulations.

Strategic objective awards

Strategic objective awards are deferred compensation awards based on strategic performance measures, including production, length of service with the firm and net new business. These awards are granted in the form of both deferred share-based and deferred cash-based awards, with a vesting period of up to six years.

Other compensation plans

Equity Plus Plan (Equity Plus)

Equity Plus is a voluntary share-based compensation plan that provides eligible employees with the opportunity to purchase UBS shares at market value and receive one notional share for every three shares purchased, up to a maximum annual limit. Share purchases may be made annually from the performance award and/or monthly through deductions from salary. If the shares purchased are held until three years from the start of the associated plan year and, in general, if the employee remains employed by UBS, the notional shares vest. Employees are entitled to receive a dividend equivalent which may be paid in notional shares and/or cash.

Role-based allowances (RBA)

Certain employees of legal entities regulated in the EU may receive an RBA in addition to their base salary. This allowance reflects the market value of a specific role and is fixed, non-forfeitable compensation. Unlike salary, an RBA is paid only as long as the employee is in such a role. RBA consist of a cash portion and, where applicable, a blocked UBS share award. Such shares will be unblocked in equal installments after two and three years. The compensation expense is recognized in the year of grant.

Note 30 Employee benefits: variable compensation (continued)

Discontinued deferred compensation plans

The following plans have been discontinued.

Key Employee Stock Appreciation Rights Plan (KESAP) and Key Employee Stock Option Plan (KESOP)

Until 2009, certain key and high-potential employees were granted discretionary share-settled stock appreciation rights (SARs) or options on UBS shares with a strike price not less than the market value of a UBS share on the date of grant. SARs gave employees the right to receive a number of UBS shares equal to the increase in market price of the UBS share between the grant date and the exercise date. One option entitled the holder to acquire one registered UBS share at the option's strike price. SARs and options were settled by delivering UBS shares, except in jurisdictions where this was not permitted for legal reasons. All unexercised options and stock appreciation rights under these awards expired in 2019.

PartnerPlus

Through performance year 2016, financial advisor strategic objective awards were partly granted under the PartnerPlus deferred cash plan. In addition to such granted awards (UBS company contributions), participants were allowed to voluntarily contribute additional amounts otherwise payable as production payout up to a certain percentage, which vested upon contribution. Company contributions and voluntary contributions were credited with interest in accordance with the terms of the plan. Rather than being credited with interest, a participant could elect to have voluntary contributions, along with vested company contributions, credited with notional earnings based on the performance of various mutual funds. Company contributions and interest on both company and voluntary contributions ratably vest in 20% installments six to 10 years following grant date. Company contributions and interest on notional earnings on both company and voluntary contributions are forfeitable under certain circumstances.

GrowthPlus

GrowthPlus is a compensation plan for selected financial advisors whose revenue production and length of service exceeded defined thresholds from 2010 to 2017. Awards were granted in 2010, 2011, 2015 and 2018. The awards are cash-based and are distributed over seven years, with the exception of 2018 awards, which are distributed over five years.

Share delivery obligations

Share delivery obligations related to employee share-based compensation awards were 156 million shares as of 31 December 2019 (31 December 2018: 146 million shares). Share delivery obligations are calculated on the basis of undistributed notional share awards, options and stock appreciation rights, taking applicable performance conditions into account.

As of 31 December 2019, UBS held 125 million treasury shares (31 December 2018: 118 million) that were available to satisfy share delivery obligations. Treasury shares held are delivered to employees at exercise or vesting.

Note 30 Employee benefits: variable compensation (continued)

b) Effect on the income statement

Effect on the income statement for the financial year and future periods

The table below provides information about compensation expenses related to total variable compensation, including financial advisor variable compensation, that were recognized in the financial year ended 31 December 2019, as well as expenses that were deferred and will be recognized in the income statement for 2020 and later.

The majority of expenses deferred to 2020 and later that are related to the performance year 2019 relates to awards granted in February 2020. The total unamortized compensation expense for unvested share-based awards granted up to 31 December 2019 will be recognized in future periods over a weighted average period of 2.4 years.

Variable compensation including financial advisor variable compensation

	Expenses recognized in 2019			Expenses deferred to 2020 and later[1]		
USD million	Related to the performance year 2019	Related to prior performance years	Total	Related to the performance year 2019	Related to prior performance years	Total
Non-deferred cash	1,894	(26)	1,868	0	0	0
Deferred compensation awards	299	588	887	429	608	1,036
of which: Equity Ownership Plan	*122*	*300*	*422*	*205*	*219*	*424*
of which: Deferred Contingent Capital Plan	*113*	*262*	*375*	*173*	*365*	*538*
of which: Long-Term Incentive Plan	*39*	*0*	*39*	*25*	*0*	*25*
of which: Asset Management EOP	*25*	*26*	*51*	*26*	*23*	*49*
Total variable compensation – performance awards	2,193	562	2,755	429	608	1,036
Replacement payments	5	51	56	44	30	75
Forfeiture credits	0	(86)	(86)	0	0	0
Severance payments	125	0	125	0	0	0
Retention plan and other payments	28	28	56	23	29	52
Deferred Contingent Capital Plan: interest expense	0	94	94	50	172	222
Total variable compensation – other	159	88	246	117	232	349
Financial advisor variable compensation	3,233	268	3,501	197	710	907
of which: non-deferred cash	*3,064*	*0*	*3,064*	*0*	*0*	*0*
of which: deferred share-based awards	*57*	*48*	*106*	*54*	*130*	*183*
of which: deferred cash-based awards	*112*	*219*	*331*	*144*	*580*	*724*
Compensation commitments with recruited financial advisors[2]	32	510	542	350	1,617	1,967
Total financial advisor variable compensation	3,265	778	4,043	548	2,327	2,874
Total variable compensation including FA variable compensation	5,617	1,428	7,045[3]	1,093	3,166	4,259

1 Estimate as of 31 December 2019. Actual amounts to be expensed in future periods may vary, e.g., due to forfeiture of awards. 2 Reflects expenses related to compensation commitments with financial advisors entered into at the time of recruitment that are subject to vesting requirements. Amounts reflected as deferred expenses represent the maximum deferred exposure as of the balance sheet date. 3 Includes USD 610 million in expenses related to share-based compensation (performance awards: USD 461 million; other variable compensation: USD 43 million; financial advisor compensation: USD 106 million). A further USD 61 million in expenses related to share-based compensation was recognized within other expense categories included in Note 6 (salaries: USD 10 million, related to role-based allowances; social security: USD 25 million; other personnel expenses: USD 27 million related to the Equity Plus Plan). Total personnel expense related to share-based equity-settled compensation excluding social security was USD 619 million.

Note 30 Employee benefits: variable compensation (continued)

Variable compensation including financial advisor variable compensation (continued)

	Expenses recognized in 2018			Expenses deferred to 2019 and later[1]		
USD million	Related to the performance year 2018	Related to prior performance years	Total	Related to the performance year 2018	Related to prior performance years	Total
Non-deferred cash	2,089	(32)	2,057	0	0	0
Deferred compensation awards	373	565	938	585	653	1,238
of which: Equity Ownership Plan	*217*	*309*	*526*	*325*	*244*	*570*
of which: Deferred Contingent Capital Plan	*131*	*226*	*357*	*238*	*382*	*620*
of which: Asset Management EOP	*25*	*28*	*53*	*22*	*26*	*48*
of which: other performance awards	*0*	*2*	*2*	*0*	*1*	*1*
Total variable compensation – performance awards	2,461	534	2,995	585	653	1,238
Replacement payments	7	64	72	60	41	102
Forfeiture credits	0	(136)	(136)	0	0	0
Severance payments	123	0	123	0	0	0
Retention plan and other payments	33	33	66	24	33	57
Deferred Contingent Capital Plan: interest expense	0	119	119	96	195	291
Total variable compensation – other	162	80	243	180	269	450
Financial advisor variable compensation	3,233	237	3,470	128	639	767
of which: non-deferred cash	*3,089*	*0*	*3,089*	*0*	*0*	*0*
of which: deferred share-based awards	*51*	*44*	*95*	*52*	*131*	*183*
of which: deferred cash-based awards	*93*	*193*	*286*	*76*	*507*	*584*
Compensation commitments with recruited financial advisors[2]	33	551	584	357	1,883	2,240
Total financial advisor variable compensation	3,266	789	4,054	484	2,522	3,006
Total variable compensation including FA variable compensation	5,889	1,403	7,292[3]	1,250	3,444	4,694

1 Estimate as of 31 December 2018. Actual amounts expensed may vary, e.g., due to forfeiture of awards. 2 Reflects expenses related to compensation commitments with financial advisors entered into at the time of recruitment that are subject to vesting requirements. Amounts reflected as deferred expenses represent the maximum deferred exposure as of the balance sheet date. 3 Includes USD 634 million in expenses related to share-based compensation (performance awards: USD 526 million; other variable compensation: USD 12 million; financial advisor compensation: USD 95 million). A further USD 49 million in expenses related to share-based compensation was recognized within other expense categories included in Note 6 (salaries: USD 15 million, related to role-based allowances; social security: USD 8 million; other personnel expenses: USD 26 million, related to the Equity Plus Plan). Total personnel expense related to share-based equity-settled compensation excluding social security was USD 676 million.

Note 30 Employee benefits: variable compensation (continued)

Variable compensation including financial advisor variable compensation (continued)

	Expenses recognized in 2017			Expenses deferred to 2018 and later[1]		
USD million	Related to the performance year 2017	Related to prior performance years	Total	Related to the performance year 2017	Related to prior performance years	Total
Non-deferred cash	2,088	(25)	2,062	0	0	0
Deferred compensation awards	399	689	1,088	594	697	1,291
of which: Equity Ownership Plan	*239*	*344*	*583*	*329*	*291*	*620*
of which: Deferred Contingent Capital Plan	*135*	*310*	*444*	*238*	*376*	*614*
of which: Asset Management EOP	*25*	*32*	*57*	*27*	*27*	*54*
of which: other performance awards	*0*	*4*	*4*	*0*	*3*	*3*
Total variable compensation – performance awards	2,487	664	3,151	594	697	1,291
Replacement payments	13	59	72	86	44	130
Forfeiture credits	0	(107)	(107)	0	0	0
Severance payments	113	0	113	0	0	0
Retention plan and other payments	25	38	63	30	33	63
Deferred Contingent Capital Plan: interest expense	0	111	111	80	222	301
Total variable compensation – other	151	101	252	196	298	494
Financial advisor variable compensation	3,050	260	3,310	156	795	951
of which: non-deferred cash	*2,891*	*0*	*2,891*	*0*	*0*	*0*
of which: deferred share-based awards	*54*	*48*	*102*	*70*	*121*	*191*
of which: deferred cash-based awards	*104*	*212*	*316*	*86*	*674*	*760*
Compensation commitments with recruited financial advisors[2]	31	723	754	369	2,058	2,428
Total financial advisor variable compensation	3,080	984	4,064	526	2,853	3,379
Total variable compensation including FA variable compensation	5,718	1,749	7,467[3]	1,316	3,848	5,164

1 Estimate as of 31 December 2017. Actual amounts expensed may vary, e.g., due to forfeiture of awards. 2 Reflects expenses related to compensation commitments with financial advisors entered into at the time of recruitment that are subject to vesting requirements. Amounts reflected as deferred expenses represent the maximum deferred exposure as of the balance sheet date. 3 Includes USD 711 million in expenses related to share-based compensation (performance awards: USD 583 million; other variable compensation: USD 26 million; financial advisor compensation: USD 102 million). A further USD 101 million in expenses related to share-based compensation was recognized within other expense categories included in Note 6 (salaries: USD 25 million, related to role-based allowances; social security: USD 51 million; other personnel expenses: USD 25 million, related to the Equity Plus Plan). Total personnel expense related to share-based equity-settled compensation excluding social security was USD 735 million.

Note 30 Employee benefits: variable compensation (continued)

c) Outstanding share-based compensation awards

Share and performance share awards

Movements in outstanding share-based awards under the EOP during 2019 and 2018 are provided in the table below.

Movements in outstanding share-based compensation awards

	Number of shares 2019	Weighted average grant date fair value (USD)	Number of shares 2018	Weighted average grant date fair value (USD)
Outstanding, at the beginning of the year	146,845,027	16	162,835,713	15
Awarded during the year	77,641,909	11	58,329,398	17
Distributed during the year	(61,152,200)	13	(67,696,099)	15
Forfeited during the year	(7,269,974)	14	(6,623,984)	16
Outstanding, at the end of the year	156,064,763	14	146,845,027	16
of which: shares vested for accounting purposes	*79,486,447*		*66,850,562*	

The total carrying amount of the liability related to cash-settled share-based awards as of 31 December 2019 and 31 December 2018 was USD 34 million and USD 39 million, respectively.

Option awards

No option awards have been granted since 2009. All remaining options expired in the year 2019. The table below provides information about movements in outstanding option awards during 2019 and 2018. As these awards are Swiss franc-denominated, weighted average exercise prices are presented in Swiss francs.

Movements in outstanding option awards

	Number of options 2019	Weighted average exercise price (CHF)	Number of options 2018	Weighted average exercise price (CHF)
Outstanding, at the beginning of the year	6,567,592	14	32,583,168	25
Exercised during the year[1]	(2,818,070)	10	(1,813,583)	12
Forfeited during the year	(512)	16	(19,752)	23
Expired unexercised	(3,749,010)	16	(24,182,241)	29
Outstanding, at the end of the year	0	n/a	6,567,592	14
Exercisable, at the end of the year	0	n/a	6,567,592	14

1 The weighted average share price upon option exercise was CHF 12.69 in 2019 (2018: CHF 16.22), resulting in an intrinsic value of CHF 7 million of options exercised during 2019 (2018: CHF 7 million).

SAR awards

No SAR awards have been granted since 2009. All remaining SARs expired in the year 2019. The table below provides information about movements in outstanding SAR awards during 2019 and 2018. As these awards are Swiss franc-denominated, weighted average exercise prices are presented in Swiss francs.

Movements in outstanding SAR awards

	Number of SARs 2019	Weighted average exercise price (CHF)	Number of SARs 2018	Weighted average exercise price (CHF)
Outstanding, at the beginning of the year	5,965,769	12	8,513,415	12
Exercised during the year[1]	(5,381,259)	11	(2,490,146)	11
Forfeited during the year	0	0	(11,000)	13
Expired unexercised	(584,510)	16	(46,500)	12
Outstanding, at the end of the year	0	n/a	5,965,769	12
Exercisable, at the end of the year	0	n/a	5,965,769	12

1 The weighted average share price upon exercise of SARs was CHF 12.71 in 2019 (2018: CHF 16.15), resulting in an intrinsic value of CHF 7 million of SARs exercised during 2019 (2018: CHF 12 million).

d) Valuation

UBS share awards

UBS measures compensation expense based on the average market price of the UBS share on the grant date as quoted on the SIX Swiss Exchange, taking into consideration post-vesting sale and hedge restrictions, non-vesting conditions and market conditions, where applicable. The fair value of the share awards subject to post-vesting sale and hedge restrictions is discounted on the basis of the duration of the post-vesting restriction and is referenced to the cost of purchasing an at-the-money European put option for the term of the transfer restriction. The weighted average discount for share and performance share awards granted during 2019 was approximately 22.6% (2018: 18.0%) of the market price of the UBS share. The grant date fair value of notional shares without dividend entitlements also includes a deduction for the present value of future expected dividends to be paid between the grant date and distribution.

Note 31 Interests in subsidiaries and other entities

a) Interests in subsidiaries

UBS defines its significant subsidiaries as those entities that, either individually or in aggregate, contribute significantly to the Group's financial position or results of operations, based on a number of criteria, including the subsidiaries' equity and their contribution to the Group's total assets and profit or loss before tax, in accordance with the requirements set by IFRS 12, Swiss regulations and the rules of the US Securities and Exchange Commission (SEC).

Individually significant subsidiaries

The two tables below list the Group's individually significant subsidiaries as of 31 December 2019. Unless otherwise stated, the subsidiaries listed below have share capital consisting solely of ordinary shares that are held entirely by the Group, and the proportion of ownership interest held is equal to the voting rights held by the Group.

The country where the respective registered office is located is also the principal place of business. UBS AG operates through a global network of branches and a significant proportion of its business activity is conducted outside Switzerland in the UK, the US, Singapore, Hong Kong and other countries. UBS Europe SE has branches and offices in a number of EU Member States, including Germany, Italy, Luxembourg, Spain and Austria. Share capital is provided in the currency of the legally registered office.

Individually significant subsidiaries of UBS Group AG as of 31 December 2019

Company	Registered office	Share capital in million		Equity interest accumulated in %
UBS AG	Zurich and Basel, Switzerland	CHF	385.8	100.0
UBS Business Solutions AG[1]	Zurich, Switzerland	CHF	1.0	100.0

1 UBS Business Solutions AG holds subsidiaries in Poland, China and India.

Individually significant subsidiaries of UBS AG as of 31 December 2019[1]

Company	Registered office	Primary business	Share capital in million		Equity interest accumulated in %
UBS Americas Holding LLC	Wilmington, Delaware, USA	Corporate Center	USD	3,150.0[2]	100.0
UBS Americas Inc.	Wilmington, Delaware, USA	Corporate Center	USD	0.0	100.0
UBS Asset Management AG	Zurich, Switzerland	Asset Management	CHF	43.2	100.0
UBS Bank USA	Salt Lake City, Utah, USA	Global Wealth Management	USD	0.0	100.0
UBS Europe SE	Frankfurt, Germany	Global Wealth Management	EUR	446.0	100.0
UBS Financial Services Inc.	Wilmington, Delaware, USA	Global Wealth Management	USD	0.0	100.0
UBS Securities LLC	Wilmington, Delaware, USA	Investment Bank	USD	1,283.1[3]	100.0
UBS Switzerland AG	Zurich, Switzerland	Personal & Corporate Banking	CHF	10.0	100.0

1 Includes direct and indirect subsidiaries of UBS AG. 2 Comprised of common share capital of USD 1,000 and non-voting preferred share capital of USD 3,150,000,000. 3 Comprised of common share capital of USD 100,000 and non-voting preferred share capital of USD 1,283,000,000.

Note 31 Interests in subsidiaries and other entities (continued)

Other subsidiaries

The table below lists other direct and indirect subsidiaries of UBS AG that are not individually significant but that contribute to the Group's total assets and aggregated profit before tax thresholds and are thereby disclosed in accordance with the requirements set by the SEC.

Other subsidiaries of UBS AG as of 31 December 2019

Company	Registered office	Primary business	Share capital in million		Equity interest accumulated in %
UBS Asset Management (Hong Kong) Limited	Hong Kong, Hong Kong	Asset Management	HKD	254.0	100.0
UBS Asset Management (Japan) Ltd	Tokyo, Japan	Asset Management	JPY	2,200.0	100.0
UBS Asset Management Life Ltd	London, United Kingdom	Asset Management	GBP	15.0	100.0
UBS Asset Management Switzerland AG	Zurich, Switzerland	Asset Management	CHF	0.5	100.0
UBS Business Solutions US LLC	Wilmington, Delaware, USA	Corporate Center	USD	0.0	100.0
UBS Credit Corp.	Wilmington, Delaware, USA	Global Wealth Management	USD	0.0	100.0
UBS (France) S.A.	Paris, France	Global Wealth Management	EUR	133.0	100.0
UBS Fund Advisor, L.L.C.	Wilmington, Delaware, USA	Global Wealth Management	USD	0.0	100.0
UBS Fund Management (Luxembourg) S.A.	Luxembourg, Luxembourg	Asset Management	EUR	13.0	100.0
UBS Fund Management (Switzerland) AG	Basel, Switzerland	Asset Management	CHF	1.0	100.0
UBS (Monaco) S.A.	Monte Carlo, Monaco	Global Wealth Management	EUR	49.2	100.0
UBS Realty Investors LLC	Boston, Massachusetts, USA	Asset Management	USD	9.0	100.0
UBS Securities (Thailand) Ltd	Bangkok, Thailand	Investment Bank	THB	500.0	100.0
UBS Securities Australia Ltd	Sydney, Australia	Investment Bank	AUD	0.3[1]	100.0
UBS Securities Japan Co., Ltd.	Tokyo, Japan	Investment Bank	JPY	32,100.0	100.0
UBS Securities Pte. Ltd.	Singapore, Singapore	Investment Bank	SGD	420.4	100.0

1 Includes a nominal amount relating to redeemable preference shares.

Consolidated structured entities

UBS consolidates a structured entity (SE) if it has power over the relevant activities of the entity, exposure to variable returns and the ability to use its power to affect its returns. Consolidated SEs include certain investment funds, securitization vehicles and client investment vehicles. UBS has no individually significant subsidiaries that are SEs.

Investment fund SEs are generally consolidated when the Group's aggregate exposure combined with its decision-making rights indicate the ability to use such power in a principal capacity. Typically, the Group will have decision-making rights as fund manager, earning a management fee, and will provide seed capital at the inception of the fund or hold a significant percentage of the fund units. Where other investors do not have the substantive ability to remove UBS as decision maker, the Group is deemed to have control and therefore consolidates the fund.

Securitization SEs are generally consolidated when the Group holds a significant percentage of the asset-backed securities issued by the SE and has the power to remove without cause the servicer of the asset portfolio.

Client investment SEs are generally consolidated when the Group has a substantive liquidation right over the SE or a decision right over the assets held by the SE and has exposure to variable returns through derivatives traded with the SE or holding notes issued by the SE.

In 2019 and 2018, the Group did not enter into any contractual obligation that could require the Group to provide financial support to consolidated SEs. In addition, the Group did not provide support, financial or otherwise, to a consolidated SE when the Group was not contractually obligated to do so, nor has the Group an intention to do so in the future. Further, the Group did not provide support, financial or otherwise, to a previously unconsolidated SE that resulted in the Group controlling the SE during the reporting period.

Note 31 Interests in subsidiaries and other entities (continued)

b) Interests in associates and joint ventures

As of 31 December 2019 and 2018, no associate or joint venture was individually material to the Group. In addition, there were no significant restrictions on the ability of associates or joint ventures to transfer funds to UBS Group AG or its subsidiaries in the form of cash dividends or to repay loans or advances made. There were no quoted market prices for any associates or joint ventures of the Group.

Investments in associates and joint ventures

USD million	2019	2018
Carrying amount at the beginning of the year	1,099	1,045
Additions	0	3
Disposals[1]	0	(431)
Reclassifications[2]		(21)
Share of comprehensive income	25	529
of which: share of net profit[3]	*46*	*529*
of which: share of other comprehensive income[4]	*(21)*	*1*
Dividends received	(83)	(42)
Impairment	(1)	
Foreign currency translation	11	16
Carrying amount at the end of the year	1,051	1,099
of which: associates	*1,010*	*1,066*
of which: SIX Group AG, Zurich[5]	*887*	*952*
of which: other associates	*123*	*114*
of which: joint ventures	*41*	*33*

1 In December 2018, UBS increased its shareholding in UBS Securities China from 24.99% to 51%, acquiring control of the entity in accordance with IFRS 10, Consolidated Financial Statements. Upon acquisition of control, UBS derecognized its former investment in associate. Refer to Note 32 for more information. 2 Reflects reclassifications to Properties and other non-current assets held for sale. 3 For 2019, consists of USD 28 million from associates and USD 18 million from joint ventures. For 2018, consists of USD 511 million from associates, of which USD 460 million reflected a valuation gain on the equity ownership in SIX related to the sale of SIX Payment Services to Worldline, and USD 18 million from joint ventures. 4 For 2019, consists of negative USD 22 million from associates and USD 1 million from joint ventures. For 2018, the total of USD 1 million is from associates. 5 In 2019, UBS AG's equity interest amounts to 17.31%. UBS AG is represented on the Board of Directors.

Note 31 Interests in subsidiaries and other entities (continued)

c) Interests in unconsolidated structured entities

During 2019, the Group sponsored the creation of various SEs and interacted with a number of non-sponsored SEs, including securitization vehicles, client vehicles as well as certain investment funds, that UBS did not consolidate as of 31 December 2019 because it did not control these entities.

The table below presents the Group's interests in and maximum exposure to loss from unconsolidated SEs as well as the total assets held by the SEs in which UBS had an interest as of year-end, except for investment funds sponsored by third parties, for which the carrying amount of UBS's interest as of year-end has been disclosed.

Interests in unconsolidated structured entities

	31.12.19				
USD million, except where indicated	Securitization vehicles	Client vehicles	Investment funds	Total	Maximum exposure to loss[1]
Financial assets at fair value held for trading	462	130	5,874	6,466	6,466
Derivative financial instruments	9	9	36	55	53
Loans and advances to customers			174	174	174
Financial assets at fair value not held for trading	81	8[2]	157	245	997
Financial assets measured at fair value through other comprehensive income		3,955		3,955	3,955
Other financial assets measured at amortized cost	335	16[2]		351	1,372
Total assets	888[3]	4,118	6,242	11,247	
Derivative financial instruments	2[4]	225	324	552	1
Total liabilities	2	225	324	552	
Assets held by the unconsolidated structured entities in which UBS had an interest (USD billion)	55[5]	73[6]	413[7]		

	31.12.18				
USD million, except where indicated	Securitization vehicles	Client vehicles	Investment funds	Total	Maximum exposure to loss[1]
Financial assets at fair value held for trading	420	174	7,297	7,890	7,890
Derivative financial instruments	8	35	1	44	44
Loans and advances to customers			179	179	179
Financial assets at fair value not held for trading	87	48[2]	166	302	1,878
Financial assets measured at fair value through other comprehensive income		3,931		3,931	3,931
Other financial assets measured at amortized cost	312	25[2]		337	1,423
Total assets	826[3]	4,212	7,643	12,682	
Derivative financial instruments	3[4]	123	32	158	3
Total liabilities	3	123	32	158	
Assets held by the unconsolidated structured entities in which UBS had an interest (USD billion)	63[5]	69[6]	385[7]		

1 For the purpose of this disclosure, maximum exposure to loss amounts do not consider the risk-reducing effects of collateral or other credit enhancements. 2 Represents the carrying amount of loan commitments. The maximum exposure to loss for these instruments is equal to the notional amount. 3 As of 31 December 2019, USD 0.6 billion of the USD 0.9 billion (31 December 2018: USD 0.6 billion of the USD 0.8 billion) was held in Corporate Center – Non-core and Legacy Portfolio. 4 Comprised of credit default swap liabilities and other swap liabilities. The maximum exposure to loss for credit default swap liabilities is equal to the sum of the negative carrying amount and the notional amount. For other swap liabilities, no maximum exposure to loss is reported. 5 Represents the principal amount outstanding. 6 Represents the market value of total assets. 7 Represents the net asset value of the investment funds sponsored by UBS and the carrying amount of UBS's interests in the investment funds not sponsored by UBS.

Note 31 Interests in subsidiaries and other entities (continued)

The Group retains or purchases interests in unconsolidated SEs in the form of direct investments, financing, guarantees, letters of credit, derivatives and through management contracts.

The Group's maximum exposure to loss is generally equal to the carrying amount of the Group's interest in the SE, with the exception of guarantees, letters of credit and credit derivatives, for which the contract's notional amount, adjusted for losses already incurred, represents the maximum loss that the Group is exposed to. In addition, the current fair value of derivative swap instruments with a positive replacement value only, such as total return swaps, is presented as the maximum exposure to loss. Risk exposure for these swap instruments could change over time with market movements.

The maximum exposure to loss disclosed in the table on the previous page does not reflect the Group's risk management activities, including effects from financial instruments that may be used to economically hedge the risks inherent in the unconsolidated SE or the risk-reducing effects of collateral or other credit enhancements.

In 2019 and 2018, the Group did not provide support, financial or otherwise, to an unconsolidated SE when not contractually obligated to do so, nor has the Group an intention to do so in the future.

In 2019 and 2018, income and expenses from interests in unconsolidated SEs primarily resulted from mark-to-market movements recognized in *Other net income from financial instruments measured at fair value through profit of loss*, which have generally been hedged with other financial instruments, as well as fee and commission income received from UBS-sponsored funds.

Interests in securitization vehicles

As of 31 December 2019 and 31 December 2018, the Group held interests, both retained and acquired, in various securitization vehicles, a majority of which are held within Corporate Center – Non-core and Legacy Portfolio. The Investment Bank also retained interests in securitization vehicles related to financing, underwriting, secondary market and derivative trading activities. In some cases the Group may be required to absorb losses from an unconsolidated SE before other parties because the Group's interest is subordinated to others in the ownership structure.

The numbers outlined in the table on the previous page may differ from the securitization positions presented in the 31 December 2019 Pillar 3 report under "Pillar 3 disclosures" at *www.ubs.com/investors,* for the following reasons: (i) exclusion of synthetic securitizations transacted with entities that are not SEs and transactions in which the Group did not have an interest because it did not absorb any risk; (ii) a different measurement basis in certain cases (e.g., IFRS carrying amount within the table above compared with net exposure amount at default for Pillar 3 disclosures); and (iii) different classification of vehicles viewed as sponsored by the Group versus sponsored by third parties.

→ **Refer to Note 1a item 1 for more information about the Group's accounting policies regarding consolidation and sponsorship of securitization vehicles and other structured entities**

→ **Refer to the 31 December 2019 Pillar 3 report under "Pillar 3 disclosures" at *www.ubs.com/investors* for more information**

Interests in client vehicles

As of 31 December 2019 and 31 December 2018, the Group retained interests in client vehicles sponsored by UBS and third parties that relate to financing and derivative activities, and to hedge structured product offerings. Included within these investments are securities guaranteed by US government agencies.

Interests in investment funds

The Group holds interests in a number of investment funds, primarily resulting from seed investments or in order to hedge structured product offerings. In addition to the interests disclosed in the table on the previous page, the Group manages the assets of various pooled investment funds and receives fees that are based, in whole or part, on the net asset value of the fund and/or the performance of the fund. The specific fee structure is determined on the basis of various market factors and considers the nature of the fund and the jurisdiction of incorporation, as well as fee schedules negotiated with clients. These fee contracts represent an interest in the fund as they align the Group's exposure with investors, providing a variable return that is based on the performance of the entity. Depending on the structure of the fund, these fees may be collected directly from the fund assets and/or from the investors. Any amounts due are collected on a regular basis and are generally backed by the assets of the fund. The Group did not have any material exposure to loss from these interests as of 31 December 2019 or as of 31 December 2018.

Note 31 Interests in subsidiaries and other entities (continued)

Sponsored unconsolidated structured entities in which UBS did not have an interest

For several sponsored SEs, no interest was held by the Group at year-end. However, during the respective reporting period the Group transferred assets, provided services and held instruments that did not qualify as an interest in these sponsored SEs, and accordingly earned income or incurred expenses from these entities. The table below presents the income earned and expenses incurred directly from these entities during the year as well as corresponding asset information. The table does not include income earned and expenses incurred from risk management activities, including income and expenses from financial instruments used to economically hedge instruments transacted with the unconsolidated SEs.

The majority of the fee income arose from investment funds that are sponsored and administrated by the Group, but managed by third parties. As the Group does not provide any active management services, UBS was not exposed to risk from the performance of these entities and was therefore deemed not to have an interest in them. In certain structures, the fees receivable may be collected directly from the investors and have therefore not been included in the table below.

The Group also recorded other net income from financial instruments measured at fair value through profit or loss from mark-to-market movements arising primarily from derivatives, such as interest rate and currency swaps as well as credit derivatives, through which the Group purchases protection, and financial liabilities designated at fair value, which do not qualify as interests because the Group does not absorb variability from the performance of the entity. Total income reported does not reflect economic hedges or other mitigating effects from the Group's risk management activities.

During 2019, UBS and third parties transferred assets of USD 1 billion and USD 1 billion, respectively, into sponsored securitization vehicles created in the year (2018: USD 1 billion and USD 1 billion, respectively). UBS and third parties also transferred assets of USD 0 billion and USD 1 billion, respectively, into sponsored client vehicles created in the year (2018: USD 2 billion and USD 0 billion, respectively). For sponsored investment funds, transfers arose during the period as investors invested and redeemed positions, thereby changing the overall size of the funds, which, when combined with market movements, resulted in a total closing net asset value of USD 42 billion (31 December 2018: USD 18 billion).

Sponsored unconsolidated structured entities in which UBS did not have an interest at year-end

	As of or for the year ended			
	31.12.19			
USD million, except where indicated	Securitization vehicles	Client vehicles	Investment funds	Total
Net interest income	(1)	0	(1)	(2)
Net fee and commission income		13	50	63
Other net income from financial instruments measured at fair value through profit or loss	19	(18)	9	11
Total income	19	(5)	58	72
Asset information (USD billion)	2[1]	1[2]	42[3]	

	As of or for the year ended			
	31.12.18			
USD million, except where indicated	Securitization vehicles	Client vehicles	Investment funds	Total
Net interest income	0	(6)	1	(5)
Net fee and commission income		16	39	54
Other net income from financial instruments measured at fair value through profit or loss	0	8	20	29
Total income	1	18	60	78
Asset information (USD billion)	2[1]	2[2]	18[3]	

1 Represents the amount of assets transferred to the respective securitization vehicles. 2 Represents the amount of assets transferred to the respective client vehicles. 3 Represents the total net asset value of the respective investment funds.

Note 32 Changes in organization and acquisitions and disposals of subsidiaries and businesses

Changes in Group structure and organization

UK business transfer and cross-border merger of UBS Limited into UBS Europe SE

In the fourth quarter of 2018, clients and other counterparties of UBS Limited who can be serviced by UBS AG, London Branch were generally migrated to UBS AG, London Branch. Transactions affecting the transferred businesses that occurred on or after the transfer date were recorded in UBS AG, London Branch.

On 1 March 2019, UBS completed its combined UK business transfer and cross-border merger of UBS Limited into UBS Europe SE, its Germany-headquartered European subsidiary.

UBS Asset Management AG

In 2016, UBS transferred the majority of the operating subsidiaries of Asset Management to UBS Asset Management AG. Effective 1 April 2019, as part of UBS's efforts to improve the resolvability of the Group, the portion of the Asset Management business in Switzerland conducted by UBS AG was transferred from UBS AG to its indirect subsidiary, UBS Asset Management Switzerland AG. With this transfer, UBS has completed the transfer of its Swiss Asset Management business and all Asset Management subsidiaries outside the US into a separate Asset Management sub-group structure.

UBS Group Funding (Switzerland) AG

UBS established UBS Group Funding (Switzerland) AG in 2016 as a wholly owned direct subsidiary of UBS Group AG, to issue loss-absorbing additional tier 1 (AT1) capital instruments and total loss-absorbing capacity (TLAC)-eligible senior unsecured debt, which were guaranteed by UBS Group AG. In line with regulatory requirements in Switzerland and following a change in Swiss tax law as of 1 January 2019 that applies to holding companies of systemically relevant banks issuing loss-absorbing AT1 or TLAC-eligible senior unsecured debt instruments, UBS has migrated such existing instruments to UBS Group AG from UBS Group Funding (Switzerland) AG in October 2019.

UBS Business Solutions AG

In 2015, UBS Business Solutions AG was established as a direct subsidiary of UBS Group AG to act as the Group service company and UBS transferred the ownership of the majority of its existing service subsidiaries outside the US to UBS Business Solutions AG. In 2017, shared services functions in Switzerland and the UK were transferred from UBS AG to UBS Business Solutions AG and UBS also completed the transfer of the shared services employees in the US to its US service company, UBS Business Solutions US LLC, a wholly owned subsidiary of UBS Americas Holding LLC.

Acquisitions

Increase of stake in and consolidation of UBS Securities China

In December 2018, UBS increased its shareholding in UBS Securities China from 24.99% to 51%, acquiring control of the entity in accordance with IFRS 10, *Consolidated Financial Statements*. Upon acquisition of control, UBS remeasured its former 24.99% holding at fair value, resulting in a pre-tax loss of USD 270 million, recognized in *Other income*. In addition, a net foreign currency translation gain of USD 46 million was recognized upon derecognition of the former investment in associate, also in *Other income*.

The cost of acquisition of the additional 26.01% stake was USD 125 million. Upon consolidation, UBS recognized USD 102 million of goodwill and USD 278 million of other net assets. In addition, a non-controlling interest of USD 136 million has been recognized.

Sales and disposals of subsidiaries and businesses

In 2019, 2018 and 2017, no significant subsidiaries were removed from the scope of consolidation as a result of sales or disposals.

In the third quarter of 2018, UBS completed the sale of Widder Hotel, resulting in a pre-tax gain on sale of subsidiaries and businesses of USD 25 million and a pre-tax gain on sale of real estate of USD 31 million.

In 2017, UBS completed the sale of Asset Management's fund administration servicing units in Luxembourg and Switzerland to Northern Trust, resulting in a pre-tax gain on sale of USD 153 million.

Strategic partnership with Sumitomo Mitsui Trust Holdings

In June 2019, UBS entered into a strategic wealth management partnership in Japan with Sumitomo Mitsui Trust Holdings, Inc. (SuMi Trust Holdings). In January 2020, the first phase was launched, with operations commencing in the newly established joint venture, UBS SuMi TRUST Wealth Advisory, which is owned equally by UBS Securities Japan and SuMi Trust Holdings and is accounted for as an investment in a joint venture by UBS. UBS and SuMi Trust Holdings have also started offering each other's products and services to their respective current clients.

The second phase of the partnership is expected to launch in 2021 with the establishment of a new entity which will be 51% owned and controlled by UBS, requiring UBS to consolidate this entity. UBS does not expect a material effect on shareholders' equity of the Group upon closing.

Strategic partnership with Banco do Brasil

In November 2019, UBS signed a binding agreement with Banco do Brasil to establish a strategic investment banking partnership that will provide investment banking services and institutional securities brokerage in Brazil and selected countries in South America. The partnership is expected to be established through a combination of assets from both stakeholders. UBS intends to contribute its operational investment banking platform in Brazil and Argentina, as well as its institutional brokerage business in Brazil. Banco do Brasil intends to contribute the exclusive access rights to its corporate clients. UBS will hold a controlling interest of 50.01% in the entity, requiring UBS to consolidate this entity. Closing of the transaction is subject to regulatory approvals and is currently expected in the first half of 2020. UBS does not expect a material effect on shareholders' equity of the Group upon closing.

Sale of majority stake in UBS Fondcenter

In January 2020, UBS has agreed to sell a majority stake in UBS Fondcenter to Clearstream, Deutsche Börse Group's post-trade services provider. UBS will retain a minority (48.8%) shareholding in the business and will enter into an agreement under which it may sell its remaining shareholding to Clearstream at a later date. As part of the transaction, UBS and Clearstream will enter into long-term commercial cooperation arrangements for the provision of services to Global Wealth Management, Asset Management and the Corporate & Institutional Clients unit of Personal & Corporate Banking. The transaction is subject to customary closing conditions and is expected to close in the second half of 2020. UBS expects to record a post-tax gain of around USD 600 million upon closing of the transaction. UBS will deconsolidate UBS Fondcenter and account for its minority interest as an investment in an associate.

Note 33 Finance lease receivables

UBS acts as a lessor and leases a variety of assets to third parties under finance leases, such as commercial vehicles, production lines, medical equipment, construction equipment and aircraft. At the end of the respective lease term, assets may be sold to third parties or further leased. Lessees may participate in any sales proceeds achieved. Lease payments cover the cost of the assets less their residual value as well as financing costs.

As of 31 December 2019, unguaranteed residual values of USD 246 million (31 December 2018: USD 156 million) had been accrued and the ECL stage 3 allowance for uncollectible minimum lease payments receivable was USD 6 million (31 December 2018: USD 7 million). No contingent rents were received in 2019. Amounts in the table below are disclosed on a gross basis. The finance lease receivables in Note 17a of USD 1,444 million are presented net of expected credit loss allowances.

Lease receivables

USD million	31.12.19		
	Total minimum lease payments	Unearned finance income	Present value
2020	448	31	417
2021–2024	874	52	822
Thereafter	221	6	215
Total	1,544	89	1,455

USD million	31.12.18		
	Total minimum lease payments	Unearned finance income	Present value
2019	359	22	337
2020–2023	703	35	669
Thereafter	103	2	102
Total	1,166	58	1,107

Note 34 Guarantees, commitments and forward starting transactions

The table below shows the maximum irrevocable amount of guarantees, commitments and forward starting transactions.

	Gross		Total gross	Sub-participations	Net
As of 31.12.19, USD million	Measured at fair value	Not measured at fair value			
Total guarantees	986	18,142	19,128	(2,646)	16,482
Loan commitments	6,308	27,547	33,856	(787)	33,069
Forward starting transactions[1]					
Reverse repurchase agreements	20,284	1,657	21,941		
Repurchase agreements	7,740	408	8,148		
As of 31.12.18, USD million					
Total guarantees	1,639	18,146	19,785	(2,803)	16,982
Loan commitments	3,535	31,212	34,747	(647)	34,099
Forward starting transactions[1]					
Reverse repurchase agreements	8,117	925	9,042		
Securities borrowing agreements		12	12		
Repurchase agreements	7,926	400	8,326		

1 Cash to be paid in the future by either UBS or the counterparty.

Note 35 Related parties

UBS defines related parties as associates (entities that are significantly influenced by UBS), joint ventures (entities in which UBS shares control with another party), post-employment benefit plans for UBS employees, key management personnel, close family members of key management personnel and entities that are, directly or indirectly, controlled or jointly controlled by key management personnel or their close family members. Key management personnel is defined as members of the Board of Directors (BoD) and Group Executive Board (GEB).

a) Remuneration of key management personnel

The Chairman of the BoD has a specific management employment contract and receives pension benefits upon retirement. Total remuneration of the Chairman of the Board of Directors and all GEB members is included in the table below.

Remuneration of key management personnel

USD million, except where indicated	31.12.19	31.12.18	31.12.17
Base salaries and other cash payments[1]	32	27	25
Incentive awards – cash[2]	14	15	15
Annual incentive award under DCCP	21	22	22
Employer's contributions to retirement benefit plans	3	3	3
Benefits in kind, fringe benefits (at market value)	1	2	2
Equity-based compensation[3]	37	40	40
Total	108	109	106
Total (CHF million)[4]	107	107	106

1 May include role-based allowances in line with market practice and regulatory requirements. 2 The cash portion may also include blocked shares in line with regulatory requirements. 3 Expenses for shares granted are calculated at grant date of the respective award and allocated over the vesting period of generally five years. Refer to Note 30 for more information. For GEB members, equity-based compensation for 2019 was entirely comprised of LTIP awards and equity-based compensation for 2018 and 2017 was entirely comprised of EOP awards. For the Chairman of the BoD the equity-based compensation for 2019, 2018 and 2017 was entirely comprised of UBS shares. 4 Swiss franc amounts disclosed represent the respective US dollar amounts translated at the applicable performance award currency exchange rates (2019: USD / CHF 0.99; 2018: USD / CHF 0.98; 2017: USD / CHF 1.00).

The independent members of the BoD do not have employment or service contracts with UBS, and thus are not entitled to benefits upon termination of their service on the BoD. Payments to these individuals for their services as external board members amounted to USD 7.3 million (CHF 7.3 million) in 2019, USD 7.6 million (CHF 7.4 million) in 2018 and USD 7.1 million (CHF 7.1 million) in 2017.

b) Equity holdings of key management personnel

Equity holdings of key management personnel

	31.12.19	31.12.18
Number of stock options from equity participation plans held by non-independent members of the BoD and the GEB members[1]	0	0
Number of shares held by members of the BoD, GEB and parties closely linked to them[2]	6,887,826	5,954,967

1 Refer to Note 30 for more information. 2 Excludes shares granted under variable compensation plans with forfeiture provisions.

Of the share totals above, no shares were held by close family members of key management personnel on 31 December 2019 and 95,597 shares were held by close family members of key management personnel on 31 December 2018. No shares were held by entities that are directly or indirectly controlled or jointly controlled by key management personnel or their close family members on 31 December 2019 and 31 December 2018. Refer to Note 30 for more information. As of 31 December 2019, no member of the BoD or GEB was the beneficial owner of more than 1% of UBS Group AG's shares.

Note 35 Related parties (continued)

c) Loans, advances and mortgages to key management personnel

The non-independent members of the BoD and GEB members are granted loans, fixed advances and mortgages in the ordinary course of business on substantially the same terms and conditions that are available to other employees, including interest rates and collateral, and neither involve more than the normal risk of collectibility nor contain any other unfavorable features for the firm. Independent BoD members are granted loans and mortgages in the ordinary course of business at general market conditions.

Movements in the loan, advances and mortgage balances are as follows.

Loans, advances and mortgages to key management personnel[1]

USD million, except where indicated	2019	2018
Balance at the beginning of the year	34	42
Additions	9	15
Reductions	(11)	(22)
Balance at the end of the year[2]	33	34
Balance at the end of the year (CHF million)[2, 3]	32	34

1 All loans are secured loans. 2 No unused uncommitted credit facilities as of 31 December 2019. Excludes unused uncommitted credit facilities for one GEB member of USD 3,000,000 (CHF 2,949,690) as of 31 December 2018. 3 Swiss franc amounts disclosed represent the respective US dollar amounts translated at the relevant year-end closing exchange rate.

d) Other related-party transactions with entities controlled by key management personnel

In 2019 and 2018, UBS did not enter into transactions with entities that are directly or indirectly controlled or jointly controlled by UBS's key management personnel or their close family members and as of 31 December 2019, 31 December 2018 and 31 December 2017, there were no outstanding balances related to such transactions. Furthermore, in 2019 and 2018, entities controlled by key management personnel did not sell any goods or provide any services to UBS, and therefore did not receive any fees from UBS. UBS also did not provide services to such entities in 2019 and 2018, and therefore also received no fees.

e) Transactions with associates and joint ventures

Loans to and outstanding receivables from associates and joint ventures

USD million	2019	2018
Carrying amount at the beginning of the year	829	565
Additions	145	276
Reductions	(5)	(13)
Foreign currency translation	13	0
Carrying amount at the end of the year	982	829
of which: unsecured loans	*971*	*818*

Other transactions with associates and joint ventures

	As of or for the year ended	
USD million	31.12.19	31.12.18
Payments to associates and joint ventures for goods and services received	124	177
Fees received for services provided to associates and joint ventures	1	4
Liabilities to associates and joint ventures	101	
Commitments and contingent liabilities to associates and joint ventures	1,598	4

→ **Refer to Note 31 for an overview of investments in associates and joint ventures**

Note 36 Invested assets and net new money

Invested assets

Invested assets include all client assets managed by or deposited with UBS for investment purposes. Invested assets include managed fund assets, managed institutional assets, discretionary and advisory wealth management portfolios, fiduciary deposits, time deposits, savings accounts and wealth management securities or brokerage accounts. All assets held for purely transactional purposes and custody-only assets, including corporate client assets held for cash management and transactional purposes, are excluded from invested assets as the Group only administers the assets and does not offer advice on how the assets should be invested. Also excluded are non-bankable assets (e.g., art collections) and deposits from third-party banks for funding or trading purposes.

Discretionary assets are defined as client assets that UBS decides how to invest. Other invested assets are those where the client ultimately decides how the assets are invested. When a single product is created in one business division and sold in another, it is counted in both the business division that manages the investment and the one that distributes it. This results in double counting within UBS total invested assets, as both business divisions are independently providing a service to their respective clients, and both add value and generate revenue.

Net new money

Net new money in a reporting period is the amount of invested assets that are entrusted to UBS by new and existing clients, less those withdrawn by existing clients and clients who terminated their relationship with UBS.

Net new money is calculated using the direct method, under which inflows and outflows to/from invested assets are determined at the client level based on transactions. Interest and dividend income from invested assets are not counted as net new money inflows. Market and currency movements as well as fees, commissions and interest on loans charged are excluded from net new money, as are the effects resulting from any acquisition or divestment of a UBS subsidiary or business. Reclassifications between invested assets and custody-only assets as a result of a change in the service level delivered are generally treated as net new money flows. However, where the change in service level directly results from an externally imposed regulation or from a strategic decision by UBS to exit a market or specific service offering, the one-time net effect is reported as *Other effects*.

The Investment Bank does not track invested assets and net new money. However, when a client is transferred from the Investment Bank to another business division, this may produce net new money even though client assets were already with UBS. There were no such transfers between the Investment Bank and other business divisions in 2019 and 2018.

Invested assets and net new money

	As of or for the year ended	
USD billion	31.12.19	31.12.18
Fund assets managed by UBS	358	342
Discretionary assets	1,209	999
Other invested assets	2,040	1,760
Total invested assets[1]	3,607	3,101
of which: double counts	*248*	*213*
Net new money[1]	51	59

1 Includes double counts.

Development of invested assets

USD billion	2019	2018
Total invested assets at the beginning of the year[1]	3,101	3,262
Net new money	51	59
Market movements[2]	444	(180)
Foreign currency translation	6	(35)
Other effects	5	(5)
of which: acquisitions / (divestments)	*(1)*	*7*
Total invested assets at the end of the year[1]	3,607	3,101

1 Includes double counts. 2 Includes interest and dividend income.

Note 37 Currency translation rates

The following table shows the rates of the main currencies used to translate the financial information of UBS's operations with a functional currency other than the US dollar into US dollars.

	Closing exchange rate		Average rate[1]		
	As of		For the year ended		
	31.12.19	31.12.18	31.12.19	31.12.18	31.12.17
1 CHF	1.03	1.02	1.01	1.02	1.02
1 EUR	1.12	1.15	1.12	1.18	1.14
1 GBP	1.32	1.28	1.28	1.33	1.30
100 JPY	0.92	0.91	0.92	0.91	0.89

1 Monthly income statement items of operations with a functional currency other than the US dollar are translated with month-end rates into US dollars. Disclosed average rates for a year represent an average of 12 month-end rates, weighted according to the income and expense volumes of all operations of the Group with the same functional currency for each month. Weighted average rates for individual business divisions may deviate from the weighted average rates for the Group.

Note 38 Main differences between IFRS and Swiss GAAP

The consolidated financial statements of UBS Group AG are prepared in accordance with International Financial Reporting Standards (IFRS). The Swiss Financial Market Supervisory Authority (FINMA) requires financial groups that present their financial statements under IFRS to provide a narrative explanation of the main differences between IFRS and Swiss GAAP (FINMA Circular 2015/1 and the Banking Ordinance). Included in this Note are the significant differences in the recognition and measurement between IFRS and the provisions of the Banking Ordinance and the guidelines of FINMA governing true and fair view financial statement reporting pursuant to article 25 through article 42 of the Banking Ordinance.

1. Consolidation

Under IFRS, all entities that are controlled by the holding entity are consolidated.

Under Swiss GAAP, controlled entities that are deemed immaterial to the Group or that are held temporarily only are exempt from consolidation, but instead are recorded as participations accounted for under the equity method of accounting or as financial investments measured at the lower of cost or market value.

2. Classification and measurement of financial assets

Under IFRS, debt instruments are measured at amortized cost, fair value through other comprehensive income (FVOCI) or fair value through profit or loss (FVTPL), depending on the nature of the business model within which the asset is held and the characteristics of the contractual cash flows of the asset. Equity instruments are accounted for at FVTPL by UBS.

Under Swiss GAAP, trading assets and derivatives are measured at FVTPL in line with IFRS. However, non-trading debt instruments are generally measured at amortized cost, even when the assets are managed on a fair value basis. In addition, the measurement of financial assets in the form of securities depends on the nature of the asset: debt instruments that are not held to maturity, i.e. instruments which are available for sale, as well as equity instruments with no permanent holding intent, are classified as *Financial investments* and measured at the lower of (amortized) cost or market value. Market value adjustments up to the original cost amount and realized gains or losses upon disposal of the investment are recorded in the income statement as *Other income from ordinary activities.* Equity instruments with a permanent holding intent are classified as participations in *Non-consolidated investments in subsidiaries and other participations* and are measured at cost less impairment.

Impairment losses are recorded in the income statement as *Impairment of investments in non-consolidated subsidiaries and other participations.* Reversals of impairments up to the original cost amount as well as realized gains or losses upon disposal of the investment are recorded as *Extraordinary income / Extraordinary expenses* in the income statement.

3. Fair value option applied to financial liabilities

Under IFRS, UBS applies the fair value option to certain financial liabilities not held for trading. Instruments for which the fair value option is applied are accounted for at FVTPL. The amount of change in the fair value that is attributable to changes in UBS's own credit is presented in *Other comprehensive income* directly within *Retained earnings*. The fair value option is applied primarily to issued structured debt instruments, certain non-structured debt instruments, certain payables under repurchase agreements and cash collateral on securities lending agreements, amounts due under unit-linked investment contracts, and brokerage payables.

Under Swiss GAAP, the fair value option can only be applied to structured debt instruments that consist of a debt host contract and one or more embedded derivatives that do not relate to own equity. Furthermore, unrealized changes in fair value attributable to changes in UBS's own credit are not recognized, whereas realized own credit is recognized in *Net trading income*.

Note 38 Main differences between IFRS and Swiss GAAP (continued)

4. Allowances and provisions for credit losses

Under IFRS, allowances and provisions for credit losses are estimated based on an expected credit loss model. Expected credit losses (ECL) are recognized for financial assets measured at amortized cost, financial assets measured at FVOCI, fee and lease receivables, financial guarantees, loan commitments and certain other credit facilities. Maximum 12-month ECL are recognized from initial recognition of instruments in stage 1. Lifetime ECL are recognized for instruments in stage 2 if a significant increase in credit risk is observed subsequent to the instrument's initial recognition. Lifetime ECL are also recognized for credit-impaired financial instruments, referred to as instruments in stage 3. Determination of whether an instrument is credit-impaired is based on the occurrence of one or more loss events.

Under Swiss GAAP, a claim is impaired and an allowance or provision for credit losses is recognized when objective evidence demonstrates that a loss event has occurred after the initial recognition and that the loss event has an effect on future cash flows that can be reliably estimated (incurred loss approach). UBS considers a claim to be impaired if it will be unable to collect all amounts due on it based on the original contractual terms as a result of credit deterioration of the issuer or counterparty. Impairment under the incurred loss approach is in line with ECL for credit-impaired claims in stage 3 under IFRS. A claim can be a loan or receivable or other debt instrument held to maturity measured at amortized cost, a debt instrument available for sale measured at the lower of amortized cost or market value, or a commitment, such as a letter of credit, a guarantee or a similar instrument.

An allowance for credit losses is reported as a decrease in the carrying amount of a financial asset. For an off-balance sheet item, such as a commitment, a provision for credit losses is reported in *Provisions*. Changes to allowances and provisions for credit losses are recognized in *Credit loss (expense) / recovery*.

5. Hedge accounting

Under IFRS, when cash flow hedge accounting is applied, the fair value gain or loss on the effective portion of the derivative designated as a cash flow hedge is recognized in equity. When fair value hedge accounting is applied, the fair value gains or losses of the derivative and the hedged item are recognized in the income statement.

Under Swiss GAAP, the effective portion of the fair value change of the derivative instrument designated as a cash flow or as a fair value hedge is deferred on the balance sheet as *Other assets* or *Other liabilities*. The carrying amount of the hedged item designated in fair value hedges is not adjusted for fair value changes attributable to the hedged risk.

6. Goodwill and intangible assets

Under IFRS, goodwill acquired in a business combination is not amortized but tested annually for impairment. Intangible assets with an indefinite useful life are also not amortized but tested annually for impairment.

Under Swiss GAAP, goodwill and intangible assets with indefinite useful lives are amortized over a period not exceeding five years, unless a longer useful life, which may not exceed 10 years, can be justified. In addition, these assets are tested annually for impairment.

7. Pension and other post-employment benefit plans

Swiss GAAP permits the use of IFRS or Swiss accounting standards for pension and other post-employment benefit plans, with the election made on a plan-by-plan basis.

UBS has elected to apply IFRS (IAS 19) for the non-Swiss defined benefit plans in UBS AG standalone financial statements and Swiss GAAP (FER 16) for the Swiss pension plan in the UBS AG and the UBS Switzerland AG standalone financial statements. The requirements of Swiss GAAP are better aligned with the specific nature of Swiss pension plans, which are hybrid in that they combine elements of defined contribution and defined benefit plans, but are treated as defined benefit plans under IFRS. Key differences between Swiss GAAP and IFRS include the treatment of dynamic elements, such as future salary increases and future interest credits on retirement savings, which are not considered under the static method used in accordance with Swiss GAAP. Also, the discount rate used to determine the defined benefit obligation in accordance with IFRS is based on the yield of high-quality corporate bonds of the market in the respective pension plan country. The discount rate used in accordance with Swiss GAAP (i.e., the technical interest rate) is determined by the Pension Foundation Board based on the expected returns of the Board's investment strategy.

For defined benefit plans, IFRS requires the full defined benefit obligation net of the plan assets to be recorded on the balance sheet, with changes resulting from remeasurements recognized directly in equity. However, for non-Swiss defined benefit plans for which IFRS accounting is elected, changes due to remeasurements are recognized in the income statement of UBS AG standalone under Swiss GAAP.

Swiss GAAP requires that employer contributions to the pension fund are recognized as personnel expenses in the income statement. Furthermore, Swiss GAAP requires an assessment as to whether, based on the financial statements of the pension fund prepared in accordance with Swiss accounting standards (FER 26), an economic benefit to, or obligation of, the employer arises from the pension fund which is recognized in the balance sheet when conditions are met. Conditions for recording a pension asset or liability would be met if, for example, an employer contribution reserve is available or the employer is required to contribute to the reduction of a pension deficit (on an FER 26 basis).

8. Leasing

Under IFRS, a single lease accounting model applies that requires UBS to record a right-of-use (RoU) asset and a corresponding lease liability on the balance sheet when UBS is a lessee in a lease arrangement. The RoU asset and the lease liability are recognized when UBS acquires control of the physical use of the asset. The lease liability is measured based on the present value of the lease payments over the lease term, discounted using UBS's unsecured borrowing rate. The RoU asset is recorded at an amount equal to the lease liability but is adjusted for rent prepayments, initial direct costs, any costs to refurbish the leased asset and/or lease incentives received. The RoU asset is depreciated over the shorter of the lease term or the useful life of the underlying asset.

Under Swiss GAAP, leases that transfer substantially all the risks and rewards, but not necessarily legal title in the underlying assets, are classified as finance leases. All other leases are classified as operating leases. Whereas finance leases are recognized on the balance sheet and measured in line with IFRS, operating lease payments are recognized as *General and administrative expenses* on a straight-line basis over the lease term, which commences with control of the physical use of the asset. Lease incentives are treated as a reduction of rental expense and are recognized on a consistent basis over the lease term.

9. Netting of replacement values

Under IFRS, replacement values and related cash collateral are reported on a gross basis unless the restrictive IFRS netting requirements are met: i) existence of master netting agreements and related collateral arrangements that are unconditional and legally enforceable, both in the normal course of business and in the event of default, bankruptcy or insolvency of UBS and its counterparties; and ii) UBS's intention to either settle on a net basis or to realize the asset and settle the liability simultaneously.

Under Swiss GAAP, replacement values and related cash collateral are generally reported on a net basis, provided the master netting and the related collateral agreements are legally enforceable in the event of default, bankruptcy or insolvency of UBS's counterparties.

10. Negative interest

Under IFRS, negative interest income arising on a financial asset does not meet the definition of interest income and, therefore, negative interest on financial assets and negative interest on financial liabilities are presented within interest expense and interest income, respectively.

Under Swiss GAAP, negative interest on financial assets is presented within interest income and negative interest on financial liabilities is presented within interest expense.

11. Extraordinary income and expense

Certain non-recurring and non-operating income and expense items, such as realized gains or losses from the disposal of participations, fixed and intangible assets, as well as reversals of impairments of participations and fixed assets, are classified as extraordinary items under Swiss GAAP. This distinction is not available under IFRS. ▲

UBS AG consolidated financial information

This section contains a comparison of selected financial and capital information between UBS Group AG consolidated and UBS AG consolidated. Information for UBS AG consolidated does not differ materially from UBS Group AG on a consolidated basis.

Comparison between UBS Group AG consolidated and UBS AG consolidated

The accounting policies applied under International Financial Reporting Standards (IFRS) to both UBS Group AG and UBS AG consolidated financial statements are identical. However, there are certain scope and presentation differences as noted below:

– Assets, liabilities, operating income, operating expenses and operating profit before tax relating to UBS Group AG and its directly held subsidiaries, including UBS Business Solutions AG, are reflected in the consolidated financial statements of UBS Group AG but not of UBS AG. UBS AG's assets, liabilities, operating income and operating expenses related to transactions with UBS Group AG and its directly held subsidiaries, including UBS Business Solutions AG and other shared services subsidiaries, are not subject to elimination in the UBS AG consolidated financial statements, but are eliminated in the UBS Group AG consolidated financial statements. UBS Business Solutions AG and other shared services subsidiaries of UBS Group AG charge other legal entities within the UBS AG consolidation scope for services provided, including a markup on costs incurred.
– The equity of UBS Group AG consolidated was USD 0.8 billion higher than the equity of UBS AG consolidated as of 31 December 2019. This difference is mainly driven by higher dividends paid by UBS AG to UBS Group AG compared with the dividend distributions of UBS Group AG, as well as higher retained earnings in the UBS Group AG consolidated financial statements, largely related to the aforementioned markup charged by shared services subsidiaries of UBS Group AG to other legal entities in the UBS AG scope of consolidation. In addition, UBS Group is the grantor of the majority of the compensation plans of the Group and recognizes share premium for equity-settled awards granted. These effects were partly offset by treasury shares acquired as part of our share repurchase program and those held to hedge share delivery obligations associated with Group compensation plans, as well as additional share premium recognized at the UBS AG consolidated level related to the establishment of UBS Group AG and UBS Business Solutions AG, a wholly owned subsidiary of UBS Group AG.
– Going concern capital of UBS AG consolidated was USD 4.7 billion lower than going concern capital of UBS Group AG consolidated as of 31 December 2019, reflecting lower additional tier 1 (AT1) capital of USD 4.3 billion and lower common equity tier 1 (CET1) capital of USD 0.3 billion.
– CET1 capital of UBS Group AG consolidated was USD 0.3 billion higher than that of UBS AG consolidated as of 31 December 2019. The difference in CET1 capital was primarily due to different accruals for capital return and differences in equity, as mentioned above.
– Going concern loss-absorbing AT1 capital of UBS AG consolidated was USD 4.3 billion lower than that of UBS Group AG consolidated as of 31 December 2019, reflecting Deferred Contingent Capital Plan awards and low-trigger AT1 capital notes. These AT1 capital notes were issued by UBS Group AG, after the implementation of the new Swiss SRB framework, and only qualify as gone concern loss-absorbing capacity at the UBS AG consolidated level.

UBS AG consolidated key figures

	As of or for the year ended		
USD million, except where indicated	31.12.19	31.12.18	31.12.17
Results			
Operating income	29,307	30,642	30,044
Operating expenses	24,138	25,184	24,969
Operating profit / (loss) before tax	5,169	5,458	5,076
Net profit / (loss) attributable to shareholders	3,965	4,107	758
Profitability and growth[1]			
Return on equity (%)	7.4	7.9	1.4
Return on tangible equity (%)	8.5	9.1	1.6
Return on common equity tier 1 capital (%)	11.3	11.9	2.3
Return on risk-weighted assets, gross (%)	11.2	12.0	12.8
Return on leverage ratio denominator, gross (%)	3.2	3.4	3.4
Cost / income ratio (%)	82.1	81.9	82.7
Net profit growth (%)	(3.4)	441.9	(77.4)
Resources			
Total assets	971,916	958,055	940,020
Equity attributable to shareholders	53,754	52,256	51,987
Common equity tier 1 capital[2]	35,280	34,608	34,100
Risk-weighted assets[2]	257,831	262,840	242,725
Common equity tier 1 capital ratio (%)[2]	13.7	13.2	14.0
Going concern capital ratio (%)[2]	18.3	16.1	15.6
Total loss-absorbing capacity ratio (%)[2]	33.9	31.3	31.4
Leverage ratio denominator[2]	911,232	904,458	910,133
Common equity tier 1 leverage ratio (%)[2]	3.87	3.83	3.75
Going concern leverage ratio (%)[2]	5.2	4.7	4.2
Total loss-absorbing capacity leverage ratio (%)[2]	9.6	9.1	8.4
Other			
Invested assets (USD billion)[3]	3,607	3,101	3,262
Personnel (full-time equivalents)[4]	47,005	47,643	46,009

1 Refer to the "Performance targets and measurement" section of this report for more information about our performance targets. 2 Based on the Swiss systemically relevant bank framework as of 1 January 2020. Refer to the "Capital management" section of this report for more information. 3 Includes invested assets for Global Wealth Management, Asset Management and Personal & Corporate Banking. 4 Personnel (full-time equivalents) as of 31 December 2019 has been amended compared with our fourth quarter 2019 report, resulting in a decrease of 28. As of 31 December 2019, the breakdown of personnel by business division and Corporate Center was: Global Wealth Management: 22,626; Personal & Corporate Banking: 5,064; Asset Management: 2,220; Investment Bank: 4,973; Corporate Center: 12,121.

Comparison between UBS Group AG consolidated and UBS AG consolidated

USD million, except where indicated	As of or for the year ended 31.12.19			As of or for the year ended 31.12.18		
	UBS Group AG consolidated	UBS AG consolidated	Difference (absolute)	UBS Group AG consolidated	UBS AG consolidated	Difference (absolute)
Income statement						
Operating income	28,889	29,307	(418)	30,213	30,642	(429)
Operating expenses	23,312	24,138	(826)	24,222	25,184	(962)
Operating profit / (loss) before tax	5,577	5,169	408	5,991	5,458	533
of which: Global Wealth Management	*3,397*	*3,335*	*62*	*3,254*	*3,212*	*42*
of which: Personal & Corporate Banking	*1,441*	*1,443*	*(2)*	*1,796*	*1,799*	*(3)*
of which: Asset Management	*532*	*531*	*1*	*426*	*425*	*1*
of which: Investment Bank	*784*	*753*	*31*	*1,486*	*1,442*	*45*
of which: Corporate Center	*(577)*	*(893)*	*317*	*(971)*	*(1,419)*	*447*
Net profit / (loss)	4,310	3,971	339	4,522	4,113	409
of which: net profit / (loss) attributable to shareholders	*4,304*	*3,965*	*339*	*4,516*	*4,107*	*409*
of which: net profit / (loss) attributable to non-controlling interests	*6*	*6*	*0*	*7*	*7*	*0*
Statement of comprehensive income						
Other comprehensive income	781	785	(4)	(292)	(147)	(145)
of which: attributable to shareholders	*785*	*789*	*(4)*	*(290)*	*(145)*	*(145)*
of which: attributable to non-controlling interests	*(4)*	*(4)*	*0*	*(1)*	*(1)*	*0*
Total comprehensive income	5,091	4,756	335	4,231	3,967	264
of which: attributable to shareholders	*5,089*	*4,754*	*335*	*4,225*	*3,961*	*264*
of which: attributable to non-controlling interests	*2*	*2*	*0*	*5*	*5*	*0*
Balance sheet						
Total assets	972,183	971,916	267	958,489	958,055	434
Total liabilities	917,476	917,988	(512)	905,386	905,624	(238)
Total equity	54,707	53,928	779	53,103	52,432	671
of which: equity attributable to shareholders	*54,533*	*53,754*	*779*	*52,928*	*52,256*	*671*
of which: equity attributable to non-controlling interests	*174*	*174*	*0*	*176*	*176*	*0*
Capital information						
Common equity tier 1 capital	35,582	35,280	302	34,119	34,608	(489)
Going concern capital	51,888	47,237	4,650	46,279	42,413	3,865
Risk-weighted assets	259,208	257,831	1,376	263,747	262,840	907
Common equity tier 1 capital ratio (%)	13.7	13.7	0.0	12.9	13.2	(0.2)
Going concern capital ratio (%)	20.0	18.3	1.7	17.5	16.1	1.4
Total loss-absorbing capacity ratio (%)	34.6	33.9	0.7	31.7	31.3	0.5
Leverage ratio denominator	911,325	911,232	94	904,598	904,458	140
Common equity tier 1 leverage ratio (%)	3.90	3.87	0.03	3.77	3.83	(0.05)
Going concern leverage ratio (%)	5.7	5.2	0.5	5.1	4.7	0.4
Total loss-absorbing capacity leverage ratio (%)	9.8	9.6	0.2	9.3	9.1	0.2

Management's report on internal control over financial reporting

Management's responsibility for internal control over financial reporting

The Board of Directors and management of UBS AG are responsible for establishing and maintaining adequate internal control over financial reporting. UBS AG's internal control over financial reporting is designed to provide reasonable assurance regarding the preparation and fair presentation of published financial statements in accordance with IFRS as issued by the IASB.

UBS AG's internal control over financial reporting includes those policies and procedures that:

– pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect transactions and dispositions of assets;
– provide reasonable assurance that transactions are recorded as necessary to permit preparation and fair presentation of financial statements, and that receipts and expenditures of the company are being made only in accordance with authorizations of UBS AG management; and
– provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management's assessment of internal control over financial reporting as of 31 December 2019

UBS AG management has assessed the effectiveness of UBS AG's internal control over financial reporting as of 31 December 2019 based on the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control – Integrated Framework (2013 Framework). Based on this assessment, management believes that, as of 31 December 2019, UBS AG's internal control over financial reporting was effective.

The effectiveness of UBS AG's internal control over financial reporting as of 31 December 2019 has been audited by Ernst & Young Ltd, UBS AG's independent registered public accounting firm, as stated in their report appearing on pages 479 to 480, which expresses an unqualified opinion on the effectiveness of UBS AG's internal control over financial reporting as of 31 December 2019.

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Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of UBS AG

Opinion on Internal Control over Financial Reporting

We have audited UBS AG and subsidiaries' internal control over financial reporting as of 31 December 2019, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, UBS AG and subsidiaries ("the Company") maintained, in all material respects, effective internal control over financial reporting as of 31 December 2019, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of 31 December 2019 and 2018, the related consolidated income statements, statements of comprehensive income, statements of changes in equity and statements of cash flows for each of the three years in the period ended 31 December 2019, and the related notes and our report dated 27 February 2020 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Ernst & Young Ltd

Ernst & Young Ltd

Basel, 27 February 2020

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Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of UBS AG

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of UBS AG and subsidiaries ("the Company") as of 31 December 2019 and 2018, the related consolidated income statements, statements of comprehensive income, statements of changes in equity and statements of cash flows for each of the three years in the period ended 31 December 2019, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at 31 December 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended 31 December 2019, in conformity with the International Financial Reporting Standards as issued by the International Accounting Standards Board.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of 31 December 2019, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated 27 February 2020 expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's Board of Directors. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Valuation of complex or illiquid instruments at fair value in accordance with IFRS 9 and IFRS 13

Description of the Matter	At 31 December 2019, as explained in notes 1-3f and note 24 to the consolidated financial statements, the Company held financial instruments that did not trade in active markets. These instruments are reported within the following accounts: financial assets and liabilities at fair value held for trading, derivative financial instruments, financial assets and liabilities at fair value not held for trading, and debt issued designated at fair value. In determining the fair value of these financial instruments, the Company used valuation techniques, modelling assumptions, and estimates of unobservable market inputs which required complex and significant judgment. Auditing management's judgments and assumptions used in the estimation of the fair value of complex or illiquid instruments was complex due to the highly judgmental nature of valuation techniques, modelling assumptions and significant unobservable inputs. Judgmental valuation techniques were comprised of discounted cash flow and earnings-based valuation techniques. Judgmental modelling assumptions result from a range of different models or model calibrations used by market participants. Judgmental valuation inputs include volatility, correlation, credit spreads and bond price equivalent inputs to the valuation of certain financial instruments where there is a limited degree of observability, and where there is judgmental extrapolation or interpolation and calibration of curves using limited data points, as well as judgmental use of proxy data points.
How We Addressed the Matter in Our Audit	We obtained an understanding, evaluated the design and tested the operating effectiveness of the controls over management's financial instruments valuation processes, including controls over market data inputs into valuation models, model governance, and valuation adjustments. We tested the valuation techniques, models and methodologies, and the inputs used in those models, as outlined above, by performing an independent revaluation of certain complex or illiquid financial assets and liabilities with the support of a specialist, using independent models and inputs, and comparing inputs to available market data among other procedures. In addition, we evaluated the methodology and inputs used by management in determining funding and credit fair value adjustments on uncollateralized derivatives and fair value option liabilities. We also assessed management's disclosures regarding fair value measurement (within notes 1-3f and 24 to the consolidated financial statements).

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Recognition of deferred tax assets

Description of the Matter	At 31 December 2019, the Company's Deferred Tax Assets ("DTA") were USD 9,513 million (see Note 8 to the Company's consolidated financial statements). DTAs are recognized to the extent it is probable that taxable profits will be available, against which, the deductible temporary differences or the carryforward of unused tax losses within the loss carryforward period can be utilized. There is significant judgment exercised when estimating the future taxable income that is not based on the reversal of taxable temporary differences. Management's estimate of future taxable profits is based on the legal entity strategic plans and is sensitive to the assumptions made in estimating future taxable income. Additionally, management supports a portion of the net DTA position with tax planning strategies. Auditing management's assessment of the realizability of the Company's DTAs was complex due to the highly judgmental nature of estimating future taxable profits over the life of the underlying tax loss carryforwards. Estimating future profitability is inherently subjective and is sensitive to future economic, market and other conditions, which are difficult to predict. Specifically, some of the more subjective macro-economic assumptions used included gross domestic product, equity market performance, and interest rates. Additionally, auditing tax planning strategies requires specific tax knowledge and understanding of the applicable tax laws, which are complex and require judgment in the interpretation of such laws and the related application.
How We Addressed the Matter in Our Audit	We evaluated the design and tested the operational effectiveness of management's controls over DTA valuation, which included the assumptions used in developing the legal entity strategic plans, tax planning strategies and estimating future taxable income. We assessed the completeness and accuracy of the data used for the estimations of future taxable income. This included recalculating the outputs of the models applied to the recognition process for DTAs. We involved specialists to assist in assessing the key economic assumptions embedded in the legal entity strategic plans. We compared key inputs used to forecast future taxable income to externally available historical and prospective data and assumptions; and assessed the sensitivity of the outcomes using reasonably possible changes in assumptions. In addition, we assessed the appropriateness and impact of management's tax planning strategies by evaluating whether these strategies were reasonable, available, feasible, and prudent. This evaluation was based on applicable tax laws and an assessment of management's interpretations of such tax laws, our understanding of the Company's business and industry, and the Company's ability to implement the strategies. We also assessed management's disclosure regarding recognized and unrecognized DTAs (within note 8 to the consolidated financial statements).

Legal Provisions & Contingent Liabilities

Description of the Matter	At 31 December 2019, the Company's provisions for litigation, regulatory and similar matters (legal provisions) were USD 2,475 million. As explained in note 21 to the consolidated financial statements, the Company operates in a legal and regulatory

environment that is exposed to significant litigation and similar risks arising from disputes and regulatory proceedings. Such matters are subject to many uncertainties and the outcomes may be difficult to predict. These uncertainties inherently affect the amount and timing of potential outflows with respect to the legal provisions which have been established and contingent liabilities.

Auditing management's assessment of legal provisions and contingent liabilities was complex and judgmental due to the significant estimation required to evaluate management's estimate of the probability that an outflow of resources will be required for existing legal matters. In particular, these legal provisions are based on management's estimation of the likelihood of the occurrence of certain scenarios and related impact on the Company's financial position.

How We Addressed the Matter in Our Audit	We obtained an understanding, evaluated the design and tested the operational effectiveness of management's controls over the legal provision and contingencies process. Our procedures included testing of management's review of the accuracy of the inputs to the estimation of the likelihood of the occurrence of certain scenarios and related impact on the Company's financial position. We assessed the methodologies on which the provision amounts were based with the involvement of specialists, recalculated the provisions, and tested the underlying information. We read the legal analyses of the matters supporting the judgmental aspects impacted by legal interpretations. We obtained correspondence directly from external legal counsel to assess the information provided by management and performed inquiries with external counsel as deemed necessary. We also assessed management's disclosure regarding legal provisions and contingent liabilities (within note 21 to the consolidated financial statements).

Expected Credit Losses

Description of the Matter	At 31 December 2019, the Company's allowances and provisions for expected credit losses ("ECL") was USD 1,029 million. As explained in note 1-3g, note 10 and note 23 to the consolidated financial statements, ECL is recognized for financial assets measured at amortized cost, financial assets measured at Fair Value Through Other Comprehensive Income, fee and lease receivables, financial guarantees and loan commitments. ECL are also recognized on the undrawn portion of revolving revocable credit lines, which include the Company's credit card limits and master credit facilities. The allowance for ECL consists of exposures that are in default which are individually evaluated for impairment (stage 3), as well as losses inherent in the loan portfolio that are not specifically identified (stage 1 and stage 2). Management's estimates for ECL represent the difference between contractual cash flows and those the Company expects to receive, discounted at the effective interest rate. The method used to calculate ECL is based on a combination of the following principal factors: probability of default ("PD"), loss given default ("LGD") and exposure at default ("EAD"). Auditing management's estimate of the allowances and provisions for ECL was complex due to the highly judgmental nature of forward-looking economic scenarios, their probability weightings and the credit risk models used to estimate stage 1 and stage 2 ECL.

Auditing the measurement of individual ECL for stage 3 was complex due to the high degree of judgment involved in management's process for estimating ECL based on LGD assumptions. These LGD assumptions take into account expected future cash flows from collateral and other credit enhancements or expected payouts from bankruptcy proceedings for unsecured claims and, where applicable, time to realization of collateral and the seniority of claims.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design and tested the operational effectiveness of management's controls over the ECL estimate, including management's choice of, and the probability weighting assigned to, the forward-looking economic scenarios used in measuring ECL. We evaluated management's methodologies and governance controls for developing and monitoring the economic scenarios used and the probability weightings assigned to them. Supported by specialists, we assessed the key macroeconomic variables used in the forward-looking scenarios, such as gross domestic product, unemployment rate, interest rates and house price indexes.

We obtained an understanding, evaluated the design and tested the operating effectiveness of controls, over credit risk models used in the ECL estimate, including controls over the completeness and accuracy of input data for those models, the calculation logic of the models, and the model's output data used in the overall ECL calculation. With the support of specialists, we performed an evaluation of management's models and tested the model outcomes by inspecting model documentation and reperforming model calculations among other procedures.

For the measurement of stage 3, we obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company's process, including an evaluation of the assumptions used by management regarding the future cash flows from the debtors' continuing operations and/or the liquidation of collateral. Additionally, we tested collateral valuation, cash flow assumptions and exit strategies, by performing inquiries of management, inspecting underlying documents, such as loan contracts, financial statements, covenants, budgets and business plans, and by re-performing discounted cash flow calculations among other procedures.

We also assessed management's disclosure regarding financial assets at amortized cost and other positions in scope of expected credit loss measurement (note 1-3g, note 10 and note 23 to the consolidated financial statements).

Ernst & Young Ltd

Ernst & Young Ltd

We have served as the Company's auditor since 1998.

Basel, 27 February 2020

UBS AG consolidated financial statements

Primary financial statements

Audited |

Income statement

		For the year ended		
USD million	Note	31.12.19	31.12.18	31.12.17
Interest income from financial instruments measured at amortized cost and fair value through other comprehensive income	3	10,703	10,121	10,437
Interest expense from financial instruments measured at amortized cost	3	(7,303)	(6,494)	(5,468)
Interest income from financial instruments measured at fair value through profit or loss	3	4,718	4,666	2,281
Interest expense from financial instruments measured at fair value through profit or loss	3	(3,703)	(3,322)	(1,228)
Net interest income	3	4,415	4,971	6,021
Other net income from financial instruments measured at fair value through profit or loss	3	6,833	6,953	5,640
Credit loss (expense) / recovery	23	(78)	(117)	(131)
Fee and commission income	4	19,156	19,632	19,390
Fee and commission expense	4	(1,696)	(1,703)	(1,840)
Net fee and commission income	4	17,460	17,930	17,550
Other income	5	677	905	965
Total operating income		29,307	30,642	30,044
Personnel expenses	6	13,801	13,992	14,952
General and administrative expenses	7	8,586	10,075	9,001
Depreciation and impairment of property, equipment and software	15	1,576	1,052	945
Amortization and impairment of goodwill and intangible assets	16	175	65	71
Total operating expenses		24,138	25,184	24,969
Operating profit / (loss) before tax		5,169	5,458	5,076
Tax expense / (benefit)	8	1,198	1,345	4,242
Net profit / (loss)		3,971	4,113	834
Net profit / (loss) attributable to preferred noteholders		0	0	73
Net profit / (loss) attributable to non-controlling interests		6	7	4
Net profit / (loss) attributable to shareholders		3,965	4,107	758

Statement of comprehensive income

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Comprehensive income attributable to shareholders			
Net profit / (loss)	3,965	4,107	758
Other comprehensive income that may be reclassified to the income statement			
Foreign currency translation			
Foreign currency translation movements related to net assets of foreign operations, before tax	199	(701)	1,553
Effective portion of changes in fair value of hedging instruments designated as net investment hedges, before tax	(144)	181	(55)
Foreign currency translation differences on foreign operations reclassified to the income statement	52	4	32
Effective portion of changes in fair value of hedging instruments designated as net investment hedges reclassified to the income statement	(14)	2	(6)
Income tax relating to foreign currency translations, including the effect of net investment hedges	(1)	(2)	(2)
Subtotal foreign currency translation, net of tax	92	(515)	1,522
Financial assets measured at fair value through other comprehensive income			
Net unrealized gains / (losses), before tax	189	(56)	96
Impairment charges reclassified to the income statement from equity	0	0	15
Realized gains reclassified to the income statement from equity	(33)	0	(209)
Realized losses reclassified to the income statement from equity	2	0	14
Income tax relating to net unrealized gains / (losses)	(41)	12	(6)
Subtotal financial assets measured at fair value through other comprehensive income, net of tax	117	(45)	(91)
Cash flow hedges of interest rate risk			
Effective portion of changes in fair value of derivative instruments designated as cash flow hedges, before tax	1,571	(42)	45
Net (gains) / losses reclassified to the income statement from equity	(175)	(294)	(843)
Income tax relating to cash flow hedges	(253)	67	163
Subtotal cash flow hedges, net of tax	1,143	(269)	(635)
Total other comprehensive income that may be reclassified to the income statement, net of tax	1,351	(829)	797
Other comprehensive income that will not be reclassified to the income statement			
Defined benefit plans			
Gains / (losses) on defined benefit plans, before tax	(129)	(70)	308
Income tax relating to defined benefit plans	(41)	245	6
Subtotal defined benefit plans, net of tax	(170)	175	314
Own credit on financial liabilities designated at fair value			
Gains / (losses) from own credit on financial liabilities designated at fair value, before tax	(400)	517	(315)
Income tax relating to own credit on financial liabilities designated at fair value	8	(8)	(2)
Subtotal own credit on financial liabilities designated at fair value, net of tax	(392)	509	(317)
Total other comprehensive income that will not be reclassified to the income statement, net of tax	(562)	684	(3)
Total other comprehensive income	789	(145)	794
Total comprehensive income attributable to shareholders	4,754	3,961	1,552

Table continues on the next page.

Statement of comprehensive income (continued)

Table continued from previous page.

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Comprehensive income attributable to preferred noteholders			
Net profit / (loss)	0	0	73
Other comprehensive income that will not be reclassified to the income statement			
Foreign currency translation movements, before tax	0	0	247
Income tax relating to foreign currency translation movements	0	0	0
Subtotal foreign currency translation, net of tax	0	0	247
Total other comprehensive income that will not be reclassified to the income statement, net of tax	0	0	247
Total comprehensive income attributable to preferred noteholders	0	0	320
Comprehensive income attributable to non-controlling interests			
Net profit / (loss)	6	7	4
Other comprehensive income that will not be reclassified to the income statement			
Foreign currency translation movements, before tax	(4)	(1)	2
Income tax relating to foreign currency translation movements	0	0	0
Subtotal foreign currency translation, net of tax	(4)	(1)	2
Total other comprehensive income that will not be reclassified to the income statement, net of tax	(4)	(1)	2
Total comprehensive income attributable to non-controlling interests	2	5	6
Total comprehensive income			
Net profit / (loss)	3,971	4,113	834
Other comprehensive income	785	(147)	1,044
of which: other comprehensive income that may be reclassified to the income statement	*1,351*	*(829)*	*797*
of which: other comprehensive income that will not be reclassified to the income statement	*(566)*	*682*	*247*
Total comprehensive income	4,756	3,967	1,878

Balance sheet

USD million	Note	31.12.19	31.12.18
Assets			
Cash and balances at central banks		107,068	108,370
Loans and advances to banks	10	12,379	16,642
Receivables from securities financing transactions	10, 25	84,245	95,349
Cash collateral receivables on derivative instruments	10, 25	23,289	23,603
Loans and advances to customers	10	327,992	321,482
Other financial assets measured at amortized cost	10, 17a	23,012	22,637
Total financial assets measured at amortized cost		577,985	588,084
Financial assets at fair value held for trading	12, 24	127,695	104,513
of which: assets pledged as collateral that may be sold or repledged by counterparties		*41,285*	*32,121*
Derivative financial instruments	11, 24, 25	121,843	126,212
Brokerage receivables	24	18,007	16,840
Financial assets at fair value not held for trading	13, 24	83,636	82,387
Total financial assets measured at fair value through profit or loss		351,181	329,953
Financial assets measured at fair value through other comprehensive income	14, 24	6,345	6,667
Investments in associates	31b	1,051	1,099
Property, equipment and software	15	11,826	8,479
Goodwill and intangible assets	16	6,469	6,647
Deferred tax assets	8	9,513	10,066
Other non-financial assets	17b	7,547	7,062
Total assets		971,916	958,055
Liabilities			
Amounts due to banks	18	6,570	10,962
Payables from securities financing transactions	25	7,778	10,296
Cash collateral payables on derivative instruments	25	31,416	28,906
Customer deposits	18a	450,591	421,986
Funding from UBS Group AG and its subsidiaries	18b	47,866	41,202
Debt issued measured at amortized cost	20	62,835	91,245
Other financial liabilities measured at amortized cost	22a	10,373	7,576
Total financial liabilities measured at amortized cost		617,429	612,174
Financial liabilities at fair value held for trading	12, 24	30,591	28,949
Derivative financial instruments	11, 24, 25	120,880	125,723
Brokerage payables designated at fair value	24	37,233	38,420
Debt issued designated at fair value	19, 24	66,592	57,031
Other financial liabilities designated at fair value	22b, 24	36,157	33,594
Total financial liabilities measured at fair value through profit or loss		291,452	283,717
Provisions	21a	2,938	3,457
Other non-financial liabilities	22c	6,168	6,275
Total liabilities		917,988	905,624
Equity			
Share capital		338	338
Share premium		24,659	24,655
Retained earnings		23,451	23,317
Other comprehensive income recognized directly in equity, net of tax		5,306	3,946
Equity attributable to shareholders		53,754	52,256
Equity attributable to non-controlling interests		174	176
Total equity		53,928	52,432
Total liabilities and equity		971,916	958,055

Statement of changes in equity

USD million	Share capital	Share premium	Retained earnings
Balance as of 1 January 2017	338	27,154	21,480
Issuance of share capital			
Premium on shares issued and warrants exercised		6	
Tax (expense) / benefit		16	
Dividends		(2,219)	
Preferred notes			
Translation effects recognized directly in retained earnings			(46)
New consolidations / (deconsolidations) and other increases / (decreases)		(324)	
Total comprehensive income for the year			755
of which: net profit / (loss)			*758*
of which: other comprehensive income (OCI) that may be reclassified to the income statement, net of tax			
of which: OCI that will not be reclassified to the income statement, net of tax – defined benefit plans			*314*
of which: OCI that will not be reclassified to the income statement, net of tax – own credit			*(317)*
of which: OCI that will not be reclassified to the income statement, net of tax – foreign currency translation			
Balance as of 31 December 2017	338	24,633	22,189
Effect of adoption of IFRS 9			(518)
Effect of adoption of IFRS 15			(25)
Balance as of 1 January 2018 after the adoption of IFRS 9 and IFRS 15	338	24,633	21,646
Issuance of share capital			
Premium on shares issued and warrants exercised		34	
Tax (expense) / benefit		(5)	
Dividends			(3,098)
Translation effects recognized directly in retained earnings			(21)
New consolidations / (deconsolidations) and other increases / (decreases)		(7)	
Total comprehensive income for the year			4,790
of which: net profit / (loss)			*4,107*
of which: other comprehensive income (OCI) that may be reclassified to the income statement, net of tax			
of which: OCI that will not be reclassified to the income statement, net of tax – defined benefit plans			*175*
of which: OCI that will not be reclassified to the income statement, net of tax – own credit			*509*
of which: OCI that will not be reclassified to the income statement, net of tax – foreign currency translation			
Balance as of 31 December 2018	338	24,655	23,317

Other comprehensive income recognized directly in equity, net of tax[1]	*of which: foreign currency translation*	*of which: financial assets at fair value through other comprehensive income*	*of which: cash flow hedges*	Total equity attributable to shareholders	Preferred noteholders	Non-controlling interests	Total equity
3,985	2,933	96	955	52,957	631	39	53,627
				0			0
				6			6
				16			16
				(2,219)	(73)	(4)	(2,297)
				0	(878)		(878)
46		7	39	0			0
				(324)		18	(306)
797	1,522	(91)	(635)	1,552	320	6	1,878
				758	73	4	834
797	1,522	(91)	(635)	797			797
				314			314
				(317)			(317)
				0	247	2	250
4,828	4,455	13	360	51,987	0	59	52,046
(74)		(74)		(591)			(591)
				(25)			(25)
4,754	4,455	(61)	360	51,370	0	59	51,429
				0			0
				34			34
				(5)			(5)
				(3,098)		(10)	(3,108)
21		3	18	0			0
				(7)		122	115
(829)	(515)	(45)	(269)	3,961	0	5	3,967
				4,107		7	4,113
(829)	(515)	(45)	(269)	(829)			(829)
				175			175
				509			509
				0		(1)	(1)
3,946	3,940	(103)	109	52,256	0	176	52,432

Statement of changes in equity (continued)

USD million	Share capital	Share premium	Retained earnings
Balance as of 31 December 2018	338	24,655	23,317
Effect of adoption of IFRIC 23			(11)
Balance as of 1 January 2019 after the adoption of IFRIC 23	338	24,655	23,306
Issuance of share capital			
Premium on shares issued and warrants exercised		0	
Tax (expense) / benefit		11	
Dividends			(3,250)
Translation effects recognized directly in retained earnings			(9)
New consolidations / (deconsolidations) and other increases / (decreases)		(7)	
Total comprehensive income for the year			3,403
of which: net profit / (loss)			*3,965*
of which: other comprehensive income (OCI) that may be reclassified to the income statement, net of tax			
of which: OCI that will not be reclassified to the income statement, net of tax – defined benefit plans			*(170)*
of which: OCI that will not be reclassified to the income statement, net of tax – own credit			*(392)*
of which: OCI that will not be reclassified to the income statement, net of tax – foreign currency translation			
Balance as of 31 December 2019	338	24,659	23,451

1 Excludes defined benefit plans and own credit that are recorded directly in Retained earnings.

Other comprehensive income recognized directly in equity, net of tax[1]	*of which: foreign currency translation*	*of which: financial assets at fair value through other comprehensive income*	*of which: cash flow hedges*	Total equity attributable to shareholders	Preferred noteholders	Non-controlling interests	Total equity
3,946	*3,940*	*(103)*	*109*	52,256	0	176	52,432
				(11)			(11)
3,946	*3,940*	*(103)*	*109*	52,245	0	176	52,421
				0			0
				0			0
				11			11
				(3,250)		(8)	(3,258)
9		*0*	*9*	0			0
				(7)		5	(3)
1,351	*92*	*117*	*1,143*	4,754	0	2	4,756
				3,965		*6*	*3,971*
1,351	*92*	*117*	*1,143*	*1,351*			*1,351*
				(170)			*(170)*
				(392)			*(392)*
				0		*(4)*	*(4)*
5,306	*4,032*	*14*	*1,260*	53,754	0	174	53,928

UBS AG shares issued

As of 31 December 2019, shares issued by UBS AG totaled 3,858,408,466 (31 December 2018: 3,858,408,466 shares) and were entirely held by UBS Group AG.

Conditional share capital

Conditional capital up to a maximum of CHF 38,000,000, represented by up to 380,000,000 fully paid registered shares with a nominal value of CHF 0.10 each, was available as of 31 December 2019 for conversion rights and warrants granted in connection with the issuance of bonds or similar financial instruments.

Authorized share capital

UBS AG had no authorized capital available to issue on 31 December 2019.

Statement of cash flows

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Cash flow from / (used in) operating activities			
Net profit / (loss)	3,971	4,113	834
Non-cash items included in net profit and other adjustments:			
Depreciation and impairment of property, equipment and software	1,576	1,052	945
Impairment of goodwill	110	0	0
Amortization and impairment of intangible assets	65	65	71
Credit loss expense / (recovery)	78	117	131
Share of net profits of associates / joint ventures and impairment of associates	(45)	(528)	(69)
Deferred tax expense / (benefit)	460	374	3,398
Net loss / (gain) from investing activities	220	(49)	(198)
Net loss / (gain) from financing activities	6,506	(4,829)	2,763
Other net adjustments	862	(1,092)	(1,077)
Net change in operating assets and liabilities:			
Loans and advances to banks / amounts due to banks	(4,336)	3,504	(3,236)
Securities financing transactions	8,678	(11,230)	(111)
Cash collateral on derivative instruments	2,842	(1,449)	(2,454)
Loans and advances to customers	(3,205)	(4,152)	(15,661)
Customer deposits	23,399	7,931	(12,073)
Financial assets and liabilities at fair value held for trading and derivative financial instruments	(18,873)	11,093	(23,560)
Brokerage receivables and payables	(2,347)	11,432	
Financial assets at fair value not held for trading, other financial assets and liabilities	126	10,902	(1,801)
Provisions, other non-financial assets and liabilities	(537)	1,377	(29)
Income taxes paid, net of refunds	(741)	(888)	(1,021)
Net cash flow from / (used in) operating activities	18,805	27,744	(53,147)
Cash flow from / (used in) investing activities			
Purchase of subsidiaries, associates and intangible assets	(26)	(287)	(106)
Disposal of subsidiaries, associates and intangible assets[1]	114	137	339
Purchase of property, equipment and software	(1,401)	(1,473)	(1,532)
Disposal of property, equipment and software	11	114	210
Purchase of financial assets measured at fair value through other comprehensive income	(3,424)	(1,999)	(8,626)
Disposal and redemption of financial assets measured at fair value through other comprehensive income	3,913	1,361	15,250
Net (purchase) / redemption of debt securities measured at amortized cost	(562)	(3,770)	
Net (purchase) / redemption of financial assets held to maturity			(91)
Net cash flow from / (used in) investing activities	(1,374)	(5,918)	5,444

Table continues on the next page.

Statement of cash flows (continued)

Table continued from previous page.

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Cash flow from / (used in) financing activities			
Net short-term debt issued / (repaid)	(17,149)	(12,245)	24,500
Distributions paid on UBS shares	(3,250)	(3,098)	(2,219)
Repayment of lease liabilities[2]	(496)		
Issuance of long-term debt, including debt issued designated at fair value	59,199	54,726	40,270
Repayment of long-term debt, including debt issued designated at fair value	(68,883)	(44,344)	(45,187)
Funding from UBS Group AG and its subsidiaries	5,848	5,956	11,180
Dividends paid and repayments of preferred notes			(782)
Net changes in non-controlling interests	(8)	(31)	(5)
Net cash flow from / (used in) financing activities	(24,738)	963	27,758
Total cash flow			
Cash and cash equivalents at the beginning of the year	125,853	104,787	118,984
Net cash flow from / (used in) operating, investing and financing activities	(7,307)	22,789	(19,944)
Effects of exchange rate differences on cash and cash equivalents	1,258	(1,722)	5,749
Cash and cash equivalents at the end of the year[3]	119,804	125,853	104,787
of which: cash and balances at central banks[4]	*106,957*	*108,268*	*89,968*
of which: loans and advances to banks	*11,317*	*15,452*	*12,726*
of which: money market paper[5]	*1,530*	*2,133*	*2,093*
Additional information			
Net cash flow from / (used in) operating activities includes:			
Interest received in cash[6]	15,344	14,666	12,721
Interest paid in cash[6]	10,800	9,372	6,748
Dividends on equity investments, investment funds and associates received in cash[7]	3,145	2,322	1,828

1 Includes dividends received from associates. 2 Upon adoption of IFRS 16 on 1 January 2019, cash payments for the principal portion of the lease liability previously classified within operating activities have been reclassified to financing activities. 3 USD 3,192 million, USD 5,245 million and USD 2,497 million of cash and cash equivalents (mainly reflected in Loans and advances to banks) were restricted as of 31 December 2019, 31 December 2018 and 31 December 2017, respectively. Refer to "Note 26 Restricted and transferred financial assets" in the "Consolidated financial statements" section of the Annual Report 2019 for more information. 4 Includes only balances with an original maturity of three months or less. 5 Money market paper is included in the balance sheet under Financial assets at fair value held for trading (31 December 2019: USD 235 million; 31 December 2018: USD 366 million; 31 December 2017: USD 135 million), Financial assets measured at fair value through other comprehensive income (31 December 2019: USD 24 million; 31 December 2018: USD 8 million; 31 December 2017: USD 17 million), Financial assets at fair value not held for trading (31 December 2019: USD 920 million; 31 December 2018: USD 1,556 million; 31 December 2017: USD 1,941 million) and Other financial assets measured at amortized cost (31 December 2019: USD 351 million; 31 December 2018: USD 204 million; 31 December 2017: USD 0 million). 6 Interest received and paid in cash was restated to represent the total of interest on financial instruments measured at amortized cost / fair value through other comprehensive income (31 December 2018: USD 10,013 million interest received and USD 6,549 million interest paid and 31 December 2017: USD 10,469 million interest received and USD 5,485 million interest paid) and interest on financial instruments measured at fair value through profit or loss (31 December 2018: USD 4,653 million interest received and USD 2,823 million interest paid and 31 December 2017: USD 2,252 million interest received and USD 1,264 million interest paid). 7 Includes dividends received from associates reported within Net cash flow from / (used in) investing activities.

Changes in liabilities arising from financing activities

USD million	Debt issued measured at amortized cost	*of which: short-term*	*of which: long-term*	Debt issued designated at fair value	Over-the-counter (OTC) debt instruments[2]	Funding from UBS Group AG and its subsidiaries[3]	Total
Balance as of 1 January 2018	107,458	*52,270*	*55,187*	50,782	4,428	35,648	198,316
Cash flows	(13,358)	*(12,245)*	*(1,113)*	13,332	(1,838)	5,956	4,092
Non-cash changes	(2,855)	*(1,000)*	*(1,854)*	(7,083)	(140)	(402)	(10,481)
of which: foreign currency translation	*(2,624)*	*(1,000)*	*(1,623)*	*309*	*(59)*	*(289)*	*(2,663)*
of which: fair value changes				*(7,392)*	*(82)*	*0*	*(7,475)*
of which: other	*(231)*	*0*	*(231)*[1]	*0*	*0*	*(113)*[1]	*(344)*
Balance as of 31 December 2018	91,245	*39,025*	*52,220*	57,031	2,450	41,202	191,928
Cash flows	(28,355)	*(17,149)*	*(11,206)*	1,947	(425)	5,848	(20,985)
Non-cash changes	(55)	*(39)*	*(16)*	7,614	(3)	1,033	8,588
of which: foreign currency translation	*(346)*	*(39)*	*(307)*	*210*	*(6)*	*(128)*	*(270)*
of which: fair value changes				*7,404*	*3*	*17*	*7,424*
of which: other	*291*	*0*	*291*[1]	*0*	*0*	*1,144*[1]	*1,434*
Balance as of 31 December 2019	62,835	*21,837*	*40,998*	66,592	2,022	48,083	179,531

1 Includes the effect of fair value hedges on long-term debt. Refer to Note 1a item j and Note 20 for more information. 2 Included in balance sheet line Other financial liabilities designated at fair value. 3 Includes funding from UBS Group AG and its subsidiaries measured at amortized cost (refer to Note 18b Funding from UBS Group AG and its subsidiaries) and measured at fair value (refer to Note 22b Other financial liabilities designated at fair value).

Notes to the UBS AG consolidated financial statements

Note 1 Summary of significant accounting policies

The following table provides an overview of information included in this Note.

Accounting policies applicable to prior periods

The accounting policies described in Note 1a have been applied consistently in 2019, 2018 and 2017 unless otherwise stated in Note 1b. Exceptions include IFRS 9, *Financial Instruments* (effective from 1 January 2018), IFRS 15, *Revenue from Contracts with Customers* (effective from 1 January 2018), and IFRS 16, *Leases* (effective from 1 January 2019).

Within Note 1a, policies applied in 2018 and 2017, or only in 2017 that differ from those applied to the financial year ended 31 December 2019 are identified with a **Comparative policy |** signpost. A triangle symbol – ▲ – indicates the end of these comparative policy sections.

a) Significant accounting policies

This Note describes the significant accounting policies applied in the preparation of the consolidated financial statements (the Financial Statements) of UBS AG and its subsidiaries (UBS AG). On 27 February 2020, the Financial Statements were authorized for issue by the Board of Directors.

Basis of accounting

The Financial Statements have been prepared in accordance with International Financial Reporting Standards (IFRS), as issued by the International Accounting Standards Board (IASB), and are presented in US dollars (USD), which is also the functional currency of: UBS AG's Head Office; UBS AG, London Branch; and UBS AG's US-based operations.

Disclosures provided in the "Risk, treasury and capital management" section of this report that are marked as audited form an integral part of the Financial Statements. These disclosures relate to requirements under IFRS 7, *Financial Instruments: Disclosures,* and IAS 1, *Presentation of Financial Statements,* and are not repeated in this section.

The accounting policies described in this Note have been applied consistently in 2019, 2018 and 2017 unless otherwise stated in Note 1b. Exceptions include IFRS 9, *Financial Instruments* (effective from 1 January 2018), IFRS 15, *Revenue from Contracts with Customers* (effective from 1 January 2018), and IFRS 16, *Leases* (effective from 1 January 2019). Within this Note, policies applied in 2018 and 2017 or only in 2017 that differ from those applied to the financial year ended 31 December 2019 are identified as "Comparative policy."

Critical accounting estimates and judgments

Preparation of these Financial Statements under IFRS requires management to apply judgment and make estimates and assumptions that affect reported amounts of assets, liabilities, income and expenses and disclosure of contingent assets and liabilities, and may involve significant uncertainty at the time they are made. Such estimates and assumptions are based on the best available information. UBS AG regularly reassesses the estimates and assumptions, which encompass historical experience, expectations of the future and other pertinent factors, to determine their continuing relevance based on current conditions, updating them as necessary. Changes in those estimates and assumptions may have a significant effect on the Financial Statements. Furthermore, actual results may differ significantly from UBS AG's estimates, which could result in significant losses to UBS AG, beyond what was anticipated or provided for.

The following areas contain estimation uncertainty or require critical judgment and have a significant effect on the amounts recognized in the Financial Statements:
– fair value measurement (refer to item 3f in this Note and to Note 24);
– expected credit loss measurement (refer to item 3g in this Note and to Note 23);
– assessment of the business model and certain contractual features when classifying financial instruments (refer to item 3b in this Note);
– pension and other post-employment benefit plans (refer to item 7 in this Note and to Note 29);
– income taxes (refer to item 8 in this Note and to Note 8);
– goodwill (refer to item 11 in this Note and to Note 16);
– provisions and contingent liabilities (refer to item 12 in this Note and to Note 21);
– consolidation of structured entities (refer to item 1 in this Note and to Note 31); and
– determination of the functional currency and assessing the earliest date from which it is practical to perform a restatement following a change in presentational currency for the year ended 31 December 2018 (refer to item 13 in this Note).

1) Consolidation

a. Consolidation principles

The Financial Statements comprise the financial statements of UBS AG and its subsidiaries, presented as a single economic entity, whereby intercompany transactions and balances have been eliminated. UBS AG consolidates all entities that it controls, including controlled structured entities (SEs), which is the case when it has: (i) power over the relevant activities of the entity; (ii) exposure to an entity's variable returns; and (iii) the ability to use its power to affect its own returns.

Where an entity is governed by voting rights, control is generally indicated by a direct shareholding of more than one-half of the voting rights.

Note 1 Summary of significant accounting policies (continued)

In other cases, the assessment of control is more complex and requires greater use of judgment. Where UBS AG has an interest in an entity that exposes it to variability, UBS AG considers whether it has power over the relevant activities of the entity that allows it to affect the variability of its returns. Consideration is given to all facts and circumstances to determine whether UBS AG has power over another entity, i.e., the current ability to direct the relevant activities of an entity when decisions about those activities need to be made. Factors such as the purpose and design of the entity, rights held through contractual arrangements (such as call rights, put rights or liquidation rights) as well as potential decision-making rights are all considered in this assessment. Where UBS AG has power over the relevant activities, a further assessment is made to determine whether, through that power, it has the ability to affect its own returns by assessing whether power is held in a principal or agent capacity. Consideration is given to: (i) the scope of decision-making authority; (ii) rights held by other parties, including removal or other participating rights; and (iii) exposure to variability, including remuneration, relative to total variability of the entity, as well as whether that exposure is different from that of other investors. If, after reviewing these factors, UBS AG concludes that it can exercise its power to affect its own returns, the entity is consolidated.

Subsidiaries, including SEs, are consolidated from the date when control is obtained and are deconsolidated from the date when control ceases. Control, or the lack thereof, is reassessed if facts and circumstances indicate that there is a change to one or more of the elements required to establish that control is present.

→ **Refer to Note 31 for more information**

b. Structured entities

UBS AG sponsors the formation of SEs and interacts with non-sponsored SEs for a variety of reasons, including allowing clients to obtain or be exposed to particular risk profiles, to provide funding or to sell or purchase credit risk. An SE is an entity that has been designed so that voting or similar rights are not the dominant factor in deciding who controls the entity. Such entities generally have a narrow and well-defined objective and include those historically referred to as special-purpose entities, as well as some investment funds. UBS AG assesses whether an entity is an SE by considering the nature of the activities of the entity as well as the substance of voting or similar rights afforded to other parties, including investors and independent boards or directors. UBS AG considers rights such as the ability to liquidate the entity or remove the decision maker to be similar to voting rights when the holder has the substantive ability to exercise such rights without cause. In the absence of such rights or in cases where the existence of such rights cannot be fully established, the entity is considered to be an SE.

The classes of SEs with which UBS AG is involved include the following:

- *Securitization structured entities* are established to issue securities to investors that are backed by assets held by the SE and whereby (i) significant credit risk associated with the securitized exposures has been transferred to third parties and (ii) there is more than one risk position or tranche issued by the securitization vehicle in line with the Basel III securitization definition. All securitization entities are classified as SEs.
- *Client investment structured entities* are established predominantly for clients to invest in specific assets or risk exposures through purchasing notes issued by the SE, predominantly on a fixed-term basis. The SE may source assets via a transfer from UBS AG or through an external market transaction. In some cases, UBS AG may enter into derivatives with the SE to either align the cash flows of the entity with the investor's intended investment objective or to introduce other desired risk exposures. In certain cases, UBS AG may have interests in a third-party-sponsored SE to hedge specific risks or participate in asset-backed financing.
- *Investment fund structured entities* have a collective investment objective, are managed by an investment manager and are either passively managed, so that any decision making does not have a substantive effect on variability, or are actively managed, and investors or their governing bodies do not have substantive voting or similar rights. UBS AG creates and sponsors a large number of funds in which it may have an interest through the receipt of variable management fees and/or a direct investment. In addition, UBS AG has interests in a number of funds created and sponsored by third parties, including exchange-traded funds and hedge funds, to hedge issued structured products.

When UBS AG does not consolidate an SE, but has an interest in an SE or has sponsored an SE, disclosures are provided on the nature of these interests and sponsorship activities.

Critical accounting estimates and judgments

Each individual entity is assessed for consolidation in line with the aforementioned consolidation principles. The assessment of control can be complex and requires the use of significant judgment. As the nature and extent of UBS AG's involvement are unique to each entity, there is no uniform consolidation outcome by entity. Certain entities within a class may be consolidated while others may not. When carrying out the consolidation assessment, judgment is exercised considering all the relevant facts and circumstances, including the nature and activities of the investee, as well as the substance of voting and similar rights.

→ **Refer to Note 31 for more information**

2) Segment reporting

UBS AG's businesses are organized globally into four business divisions: Global Wealth Management, Personal & Corporate Banking, Asset Management and the Investment Bank. All four business divisions are supported by Corporate Center and qualify as reportable segments for the purpose of segment reporting. Together with Corporate Center, the four business divisions reflect the management structure of the Group. Financial information about the four business divisions and Corporate Center is presented separately in internal management reports.

Prior to 2018, UBS AG's businesses were organized globally into five business divisions: Wealth Management, Wealth Management Americas, Personal & Corporate Banking, Asset Management and the Investment Bank, all of which were supported by Corporate Center. The five business divisions qualified as reportable segments for the purpose of segment reporting and, together with Corporate Center, reflected the management structure of the Group. Corporate Center – Non-core and Legacy Portfolio was managed and reported as a separate reportable unit within Corporate Center. Financial information about the five business divisions and Corporate Center was presented separately in internal management reports.

Effective from 2018, UBS AG combined its Wealth Management and Wealth Management Americas business divisions into a single Global Wealth Management business division. Global Wealth Management is managed on an integrated basis, with a single set of performance targets and an integrated operating plan and management structure. Consistent with this, the operating results of Global Wealth Management are presented and assessed on an integrated basis in internal management reports. Consequently, from 2018, Global Wealth Management qualifies as an operating and reportable segment for the purposes of segment reporting and is presented in these Financial Statements alongside Personal & Corporate Banking, Asset Management, the Investment Bank and Corporate Center. Following the change in the composition of UBS AG's operating segments and corresponding reportable segments, previously reported segment information has been restated. This change had no material effect on the former segments, including recognized goodwill.

→ **Refer to item 11 in this Note and Note 16 for more information**

Effective from 2019, UBS AG has operationally combined Group Treasury activities with Group Asset and Liability Management (Group ALM) and calls this combined unit Group Treasury. In addition, UBS AG provides results for total Corporate Center only and does not separately report Corporate Center – Services, Group Treasury and Non-core and Legacy Portfolio due to the substantial reduction in the size and resource consumption of these units. Prior-period information has been restated.

UBS AG's internal accounting policies, which include management accounting policies and service level agreements, determine the revenues and expenses directly attributable to each reportable segment. Transactions between the reportable segments are carried out at internally agreed rates and are reflected in the operating results of the reportable segments. Revenue-sharing agreements are used to allocate external client revenues to reportable segments where several reportable segments are involved in the value creation chain. Commissions are credited to the reportable segments based on the corresponding client relationship. Total intersegment revenues for UBS AG are immaterial, as the majority of the revenues are allocated across the segments by means of revenue-sharing agreements. Interest income earned from managing UBS AG's consolidated equity is allocated to the reportable segments based on average attributed tangible equity and currency composition. Assets and liabilities of the reportable segments are funded through and invested with Corporate Center, and the net interest margin is reflected in the results of each reportable segment.

Note 1 Summary of significant accounting policies (continued)

Segment assets are based on a third-party view and do not include intercompany balances. This view is in line with internal reporting to management. Certain assets managed centrally by Corporate Center may be allocated to other segments on a basis different to that on which the corresponding costs or revenues are allocated. For example, certain assets are reported on the balance sheet of Corporate Center, notwithstanding that the costs or revenues associated with these assets may be entirely or partly allocated to the operating segments. Similarly, certain assets are reported in the business divisions, whereas the corresponding costs or revenues are entirely or partly allocated to Corporate Center.

Non-current assets disclosed for segment reporting purposes represent assets that are expected to be recovered more than 12 months after the reporting date, excluding financial instruments, deferred tax assets and post-employment benefits.

→ **Refer to Notes 1b and 2 for more information**

3) Financial instruments

a. Recognition

UBS AG recognizes financial instruments when it becomes a party to the contractual provisions of the instrument. UBS AG applies settlement date accounting to all regular way purchases and sales of non-derivative financial instruments.

In transactions in which UBS AG acts as a transferee, to the extent that the transfer of a financial asset does not qualify for derecognition by the transferor, UBS AG does not recognize the transferred instrument as its asset.

UBS AG also acts in a fiduciary capacity, which results in the holding or placing of assets on behalf of individuals, trusts, retirement benefit plans and other institutions. Unless these items meet the definition of an asset and the recognition criteria are satisfied, such assets are not recognized on UBS AG's balance sheet. Consequently, the related income is excluded from these Financial Statements.

Client cash balances associated with derivatives clearing and execution services are not recognized on the balance sheet if, through contractual agreement, regulation or practice, UBS AG neither obtains benefits from nor controls the client cash balances.

b. Classification, measurement and presentation

All financial instruments are on initial recognition measured at fair value. In the case of financial instruments subsequently measured at amortized cost or fair value through other comprehensive income (FVOCI), the initial fair value is adjusted for directly attributable transaction costs.

Policy applicable from 1 January 2018[1]

On initial recognition, financial assets are classified as measured at amortized cost, FVOCI or fair value through profit or loss (FVTPL).

A debt instrument is measured at amortized cost if it meets both of the following conditions:

– it is held within a business model that has an objective to hold financial assets to collect contractual cash flows; and
– the contractual terms of the financial asset result in cash flows that are solely payments of principal and interest (SPPI) on the principal amount outstanding.

A debt instrument is measured at FVOCI if it meets both of the following conditions:

– it is held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets; and
– the contractual terms of the financial asset result in cash flows that are SPPI on the principal amount outstanding.

All other financial assets are measured at FVTPL and consist of held for trading assets, assets mandatorily measured on a fair value basis and derivatives, except to the extent that they are designated in a hedging relationship, in which case the IAS 39 hedge accounting requirements continue to apply.

Business model assessment

UBS AG determines the nature of the business model, for example if the objective is to hold the financial asset and collect the contractual cash flows, by considering the way in which the financial assets are managed to achieve a particular business objective as determined by management.

Financial assets that are held for trading or managed on a fair value basis are measured at FVTPL insofar as the associated business model is neither to hold the financial assets to collect contractual cash flows nor to hold to collect contractual cash flows and sell.

UBS AG originates loans to hold to maturity and to sell or sub-participate to other parties, resulting in a transfer of substantially all the risks and rewards, and derecognition of the loan or portions of it. UBS AG considers the activities of lending to hold and lending to sell or sub-participate as two separate business models, with financial assets within the former considered to be within a business model that has an objective of holding assets to collect contractual cash flows, and those within the latter included in a trading portfolio. In certain cases, it may not be possible on origination to identify whether loans or portions of loans will be sold or sub-participated and certain loans may be managed on a fair value basis through, for instance, using credit derivatives. These financial assets are mandatorily measured at FVTPL.

1 The accounting policy in this section applies from 1 January 2018, the effective date of IFRS 9.

Critical accounting estimates and judgments

UBS AG exercises judgment in determining the appropriate level at which to assess its business models. In general, the assessment is performed at the product level, e.g., retail and commercial mortgages. In other cases, the assessment is carried out at a more granular level, e.g., loan portfolios by region, and, if required, further disaggregation is performed by business strategy. A detailed assessment is carried out considering how the financial assets are evaluated and reported to UBS AG's key management, the risks that affect the performance of the business and the way that management is compensated. In addition, UBS AG exercises judgment in determining the effect of sales of financial instruments on the business model assessment. In particular, an assessment is made on whether and the extent to which sales are consistent with the objective of the business model.

Contractual cash flow characteristics

In assessing whether the contractual cash flows are SPPI, UBS AG considers whether the contractual terms of the financial asset contain a term that could change the timing or amount of contractual cash flows arising over the life of the instrument, which could affect whether the instrument is considered to meet the SPPI criterion.

For example, UBS AG holds portfolios of private mortgage contracts and corporate loans in Personal & Corporate Banking that commonly contain clauses that provide for two-way compensation if prepayment occurs. The amount of compensation paid by or to UBS AG reflects the effect of changes in market interest rates. UBS AG has determined that the inclusion of the change in market interest rates in the compensation amount is reasonable for the early termination of the contract, and therefore results in contractual cash flows that are SPPI.

Critical accounting estimates and judgments

UBS AG applies judgment when considering whether certain contractual features, such as interest rate reset frequency or non-recourse features, significantly affect future cash flows and whether compensation paid or received on early termination of lending arrangements results in cash flows that are not SPPI. A thorough analysis of all relevant facts and circumstances is assessed before concluding whether contractual cash flows of the financial instrument are consistent with payments representing principal and interest.

After initial recognition, UBS AG classifies, measures and presents its financial assets and liabilities in accordance with IFRS 9, as described in the table on the following pages.

Note 1 Summary of significant accounting policies (continued)

Classification, measurement and presentation of financial assets from 1 January 2018

<table>
<tr><th colspan="2">Financial assets
Classification</th><th>Significant items included</th><th>Measurement and presentation</th></tr>
<tr><td colspan="2">Measured at amortized cost</td><td>This classification includes:
– cash and balances at central banks;
– loans and advances to banks;
– cash collateral receivables on securities borrowed;
– receivables on reverse repurchase agreements;
– cash collateral receivables on derivative instruments;
– residential and commercial mortgages;
– corporate loans;
– secured loans, including Lombard loans, and unsecured loans;
– loans to financial advisors; and
– debt securities held as high-quality liquid assets (HQLA).</td><td>Measured at amortized cost using the effective interest rate (EIR) method less allowances for expected credit losses (ECL) (refer to items 3c and 3g in this Note for more information).

The following items are recognized in the income statement:
– interest income, which is accounted for in accordance with item 3c in this Note;
– ECL and reversals; and
– foreign exchange translation gains and losses.

Upfront fees and direct costs relating to loan origination, refinancing or restructuring as well as to loan commitments – when it is probable that UBS AG will enter into a specific lending relationship – are deferred and amortized over the life of the loan using the EIR method.

When the financial asset at amortized cost is derecognized, the gain or loss is recognized in the income statement.

Amounts arising from exchange-traded derivatives (ETD) and certain over-the-counter (OTC) derivatives cleared through central clearing counterparties that are either considered to be daily settled or in substance net settled on a daily basis (refer to items 3d and 3i in this Note) are presented within Cash collateral receivables on derivative instruments.</td></tr>
<tr><td>Measured at FVOCI</td><td>Debt instruments measured at FVOCI</td><td>This classification primarily includes debt securities and certain asset-backed securities held as HQLA.</td><td>Measured at fair value with unrealized gains and losses reported in Other comprehensive income, net of applicable income taxes, until such investments are derecognized (when sold, collected or otherwise disposed). Upon derecognition, any accumulated balances in Other comprehensive income are reclassified to the income statement and reported within Other income.

The following items are recognized in the income statement:
– interest income, which is accounted for in accordance with item 3c in this Note;
– ECL and reversals; and
– foreign exchange translation gains and losses.

The amounts recognized in the income statement are determined on the same basis as for financial assets measured at amortized cost.</td></tr>
</table>

Note 1 Summary of significant accounting policies (continued)

Classification, measurement and presentation of financial assets from 1 January 2018 (continued)

<table>
<tr><th colspan="2">Financial assets
Classification</th><th>Significant items included</th><th>Measurement and presentation</th></tr>
<tr><td rowspan="2">Measured at FVTPL</td><td>Held for trading</td><td>Financial assets held for trading include:
– all derivatives with a positive replacement value, except those that are designated and effective hedging instruments; and
– other financial assets acquired principally for the purpose of selling or repurchasing in the near term, or that are part of a portfolio of identified financial instruments that are managed together and for which there is evidence of a recent actual pattern of short-term profit taking. Included in this category are debt instruments (including those in the form of securities, money market paper, and traded corporate and bank loans) and equity instruments.</td><td rowspan="2">Measured at fair value with changes recognized in profit or loss.

Changes in fair value, initial transaction costs, dividends and gains and losses realized on disposal or redemption are recognized in Other net income from financial instruments measured at fair value through profit or loss, except interest income on instruments other than derivatives (refer to item 3c in this Note and Note 1b for more information), interest on derivatives designated as hedging instruments in certain types of hedge accounting relationships and forward points on certain short- and long-duration foreign exchange contracts, which are reported in Net interest income.

Derivative assets (including derivatives that are designated and effective hedging instruments) are generally presented as Derivative financial instruments, except those exchange-traded and OTC-cleared derivatives that are considered to be settled on a daily basis or in substance net settled on a daily basis, which are presented within Cash collateral receivables on derivative instruments.

The presentation of fair value changes on derivatives that are designated and effective hedging instruments depends on the type of hedge relationship (refer to item 3j in this Note for more information).

Financial assets held for trading (other than derivatives) are presented as Financial assets at fair value held for trading.

Other financial assets mandatorily measured at fair value through profit or loss are presented as Financial assets at fair value not held for trading, except for brokerage receivables, which are presented as a separate line item on UBS AG's balance sheet.</td></tr>
<tr><td>Mandatorily measured at FVTPL – Other</td><td>A financial asset is mandatorily measured at FVTPL if:
– it is not held in a business model whose objective is to hold assets to collect contractual cash flows or to hold them to collect contractual cash flows and sell; and/or
– the contractual terms give rise to cash flows that are not SPPI; and/or
– it is not held for trading.

The following financial assets are mandatorily measured at FVTPL:
– certain structured loans, certain commercial loans, receivables under reverse repurchase and cash collateral on securities borrowing agreements that are managed on a fair value basis;
– loans managed on a fair value basis and hedged with credit derivatives;
– certain debt securities held as HQLA and managed on a fair value basis;
– certain investment fund holdings and assets held to hedge delivery obligations related to cash-settled employee compensation plans – these assets represent holdings in investment funds, whereby the contractual cash flows do not meet the SPPI criterion because the entry and exit price is based on the fair value of the fund's assets;
– brokerage receivables, for which contractual cash flows do not meet the SPPI criterion because the aggregate balance is accounted for as a single unit of account, with interest being calculated on the individual components;
– auction rate securities, for which contractual cash flows do not meet the SPPI criterion because interest may be reset at rates that contain leverage;
– equity instruments; and
– assets held under unit-linked investment contracts.</td></tr>
</table>

Note 1 Summary of significant accounting policies (continued)

Classification, measurement and presentation of financial liabilities

<table>
<tr><th colspan="2">Financial liabilities
Classification</th><th>Significant items included</th><th>Measurement and presentation</th></tr>
<tr><td colspan="2">Measured at amortized cost</td><td>This classification includes:
– demand and time deposits;
– retail savings / deposits;
– amounts payable under repurchase agreements;
– cash collateral on securities lent;
– non-structured fixed-rate bonds;
– subordinated debt;
– certificates of deposit and covered bonds;
– obligations against funding from UBS Group AG and its subsidiaries ; and
– cash collateral payables on derivative instruments.</td><td>Measured at amortized cost using the EIR method.

Upfront fees and direct costs relating to the issuance or origination of the liability are deferred and amortized over the life of the liability using the EIR method.

When the financial liability at amortized cost is derecognized, the gain or loss is recognized in the income statement.

Amortized cost liabilities are presented on the balance sheet primarily as Amounts due to banks, Customer deposits, Payables from securities financing transactions, Debt issued measured at amortized cost and Funding from UBS Group AG and its subsidiaries.

Amounts arising from ETD and certain OTC derivatives cleared through central clearing counterparties that are either considered to be daily settled or in substance net settled on a daily basis (refer to items 3d and 3i in this Note for more information) are presented within Cash collateral payables on derivative instruments.</td></tr>
<tr><td rowspan="2">Measured at fair value through profit or loss</td><td>Held for trading</td><td>Financial liabilities held for trading include:
– all derivatives with a negative replacement value (including certain loan commitments), except those that are designated and effective hedging instruments; and
– obligations to deliver financial instruments, such as debt and equity instruments, that UBS AG has sold to third parties, but does not own (short positions).</td><td rowspan="2">Measurement of financial liabilities classified at FVTPL follows the same principles as for financial assets classified at FVTPL, except that the amount of change in the fair value of the financial liability that is attributable to changes in UBS AG's own credit risk is presented in OCI.

Financial liabilities measured at FVTPL are presented as Financial liabilities at fair value held for trading and Other financial liabilities designated at fair value, respectively, except for brokerage payables and debt issued, which are presented separately on UBS AG's balance sheet.

Derivative liabilities (including derivatives that are designated and effective hedging instruments) are generally presented as Derivative financial instruments, except those exchange-traded and OTC-cleared derivatives that are considered to be settled on a daily basis or in substance net settled on a daily basis, which are presented within Cash collateral payables on derivative instruments.

Bifurcated embedded derivatives are measured at fair value, but are presented on the same balance sheet line as the host contract measured at amortized cost.

Derivatives that are designated and effective hedging instruments are also measured at fair value. The presentation of fair value changes differs depending on the type of hedge relationship (refer to item 3j in this Note for more information).</td></tr>
<tr><td>Designated at FVTPL</td><td>UBS AG designates at FVTPL the following financial liabilities:
– issued hybrid debt instruments that primarily include equity-linked, credit-linked and rates-linked bonds or notes;
– issued debt instruments managed on a fair value basis;
– certain payables under repurchase agreements and cash collateral on securities lending agreements that are managed in conjunction with associated reverse repurchase agreements and cash collateral on securities borrowed (from 1 January 2018);
– amounts due under unit-linked investment contracts whose cash flows are linked to financial assets measured at FVTPL and eliminate an accounting mismatch (from 1 January 2018); and
– brokerage payables, which arise in conjunction with brokerage receivables and are measured at FVTPL to achieve measurement consistency (from 1 January 2018).</td></tr>
</table>

Note 1 Summary of significant accounting policies (continued)

Comparative policy | *Policy applicable prior to 1 January 2018*
Prior to 1 January 2018, on initial recognition, UBS AG classified, measured and presented its financial assets and liabilities in accordance with IAS 39, *Financial Instruments: Recognition and Measurement.* Classification, measurement and presentation requirements in respect of financial liabilities have been substantially retained by IFRS 9 and are detailed in the "Classification, measurement and presentation of financial instruments from 1 January 2018" table. The following table sets out details of classification, measurement and presentation of financial assets prior to 1 January 2018.

Classification, measurement and presentation of financial assets prior to 1 January 2018

Financial assets Classification	Significant items included	Measurement and presentation[1]
Held for trading	Financial assets held for trading include: – all derivatives with a positive replacement value, except those that are designated and effective hedging instruments; and – any other financial asset acquired principally for the purpose of selling or repurchasing in the near term, or part of a portfolio of identified financial instruments that are managed together and for which there is evidence of a recent actual pattern of short-term profit taking. Included in this category are debt instruments (including those in the form of securities, money market paper and traded corporate and bank loans), equity instruments, and assets held under unit-linked investment contracts.	Measured at fair value with changes recognized in profit or loss. Changes in fair value, initial transaction costs and gains and losses realized on disposal or redemption are recognized in *Other net income from financial instruments measured at fair value through profit or loss* (prior to 1 January 2019: *Other net income from fair value changes on financial instruments*), except interest and dividend income on instruments other than derivatives (refer to item 3c in this Note), interest on derivatives designated as hedging instruments in certain types of hedge accounting relationships and forward points on certain short duration foreign exchange contracts, which are reported in *Net interest income.*
Designated at fair value through profit or loss	A financial asset may be designated at fair value through profit or loss only upon initial recognition and this designation is irrevocable. The fair value option can be applied only if one of the following criteria is met: – the financial instrument is a hybrid instrument that includes a substantive embedded derivative; – the financial instrument is part of a portfolio that is risk managed on a fair value basis and reported to senior management on that basis; or – the application of the fair value option eliminates or significantly reduces an accounting mismatch that would otherwise arise. UBS AG designated at fair value through profit or loss the following financial assets: – certain structured loans, reverse repurchase and securities borrowing agreements that are managed on a fair value basis; – loans that are hedged predominantly with credit derivatives – these instruments are designated at fair value to eliminate an accounting mismatch; – certain debt securities held as high-quality liquid assets (HQLA) and managed by Corporate Center – Group Treasury on a fair value basis; and – assets held to hedge delivery obligations related to cash-settled employee compensation plans – these assets are designated at fair value in order to eliminate an accounting mismatch that would otherwise arise as a result of the liability being measured on a fair value basis.	Derivative assets are generally presented as *Derivative financial instruments.* Bifurcated embedded derivatives are measured at fair value, but presented on the same balance sheet line as the host contract measured at amortized cost. The presentation of fair value changes on derivatives that are designated and effective hedging instruments differs depending on the type of hedge relationship (refer to item 3j in this Note for more information). Financial assets held for trading (other than derivatives) are presented as *Financial assets at fair value held for trading.* Financial assets designated at fair value through profit or loss are presented as *Financial assets at fair value not held for trading.*

1 Presentation categories in this table reflect retrospective amendments to UBS AG's balance sheet presentation carried out upon transition to IFRS 9 to facilitate comparability.

Note 1 Summary of significant accounting policies (continued)

Classification, measurement and presentation of financial assets prior to 1 January 2018 (continued)

Financial assets Classification	Significant items included	Measurement and presentation
Loans and receivables (amortized cost)	Non-derivative financial assets with fixed or determinable payments that are not quoted in an active market and are not assets for which UBS AG may not recover substantially all of its initial net investment for reasons other than credit deterioration. This classification includes: – cash and balances with central banks; – cash collateral receivables on derivative instruments; – residential and commercial mortgages; – secured loans, including reverse repurchase agreements, receivables under stock borrowing and Lombard loans, and unsecured loans; – certain securities held within Corporate Center – Non-core and Legacy Portfolio; and – trade and lease receivables.	Measured at amortized cost using the effective interest rate method less allowances for credit losses (refer to items 3c and 3g in this Note). Upfront fees and direct costs relating to loan origination, refinancing or restructuring as well as to loan commitments are deferred and amortized over the life of the loan using the effective interest rate method. Loans and receivables are presented on the balance sheet primarily as *Cash and balances with central banks, Loans and advances to banks, Loans and advances to customers*, *Receivables from securities financing transactions* and *Cash collateral receivables on derivative instruments.* Amounts arising from exchange-traded derivatives (ETD) and certain over-the-counter (OTC) derivatives cleared through central clearing counterparties that are either considered to be daily settled or qualify for offsetting (refer to items 3d and 3i in this Note) are presented within *Cash collateral receivables on derivative instruments.*
Available for sale	Financial assets classified as available for sale are non-derivative financial assets that are not classified as held for trading, designated at fair value through profit or loss, or loans and receivables. This classification mainly includes debt securities held as HQLA and managed by Corporate Center – Group Treasury, certain asset-backed securities managed by Corporate Center – Group Treasury, investment fund holdings and strategic and commercial equity investments.	Measured at fair value with unrealized gains and losses reported in *Other comprehensive income,* net of applicable income taxes, until such investments are sold, collected or otherwise disposed of, or until any such investment is determined to be impaired (refer to item 3g in this Note). Upon disposal, any accumulated balances in *Other comprehensive income* are reclassified to the income statement and reported within *Other income.* Interest and dividend income are recognized in the income statement in accordance with item 3c in this Note. Refer to item 13 in this Note for information about the treatment of foreign exchange translation gains and losses.
Held to maturity	Non-derivative financial assets with fixed or determinable payments and fixed maturities for which UBS AG has the positive intention and ability to hold to maturity. This classification mainly includes debt securities held as HQLA and managed by Corporate Center – Group Treasury.	Measured at amortized cost using the effective interest rate method less allowances for credit losses (refer to items 3c and 3g in this Note).

c. Interest income and expense

Interest income and expense are recognized in the income statement applying the effective interest rate (EIR) method. When calculating the EIR for financial instruments (other than credit-impaired financial instruments), UBS AG estimates future cash flows considering all contractual terms of the instrument, but not expected credit losses.

In determining interest income and expense, the EIR is applied to the gross carrying amount of the financial asset (unless the asset is credit-impaired) or the amortized cost of a financial liability (prior to 1 January 2018: the amortized cost of a financial asset or financial liability). However, when a financial asset becomes credit-impaired after initial recognition, interest income is determined by applying the EIR to the amortized cost of the instrument, which represents the gross carrying amount adjusted for any credit loss allowance. Furthermore, for financial assets that were credit-impaired on initial recognition, interest is determined by applying a credit-adjusted EIR to the amortized cost of the instrument.

Upfront fees, including loan commitment fees where a loan is expected to be issued, and direct costs are included within the initial measurement of a financial instrument measured at amortized cost or FVOCI (prior to 1 January 2018: the financial asset classified as available for sale). Such fees and costs are therefore recognized over the expected life of the instrument as part of its EIR.

Fees related to loan commitments where no loan is expected to be issued, as well as loan syndication fees where UBS AG does not retain a portion of the syndicated loan or where UBS AG does retain a portion of the syndicated loan at the same effective yield for comparable risk as other participants, are included in *Net fee and commission income*.

→ **Refer to item 4 in this Note for more information**

Presentation of interest in the income statement

Effective from 1 January 2018, interest income or expense on financial instruments measured at amortized cost and financial assets measured at FVOCI (prior to 1 January 2018: financial assets classified as available for sale) are presented separately within *Interest income from financial instruments measured at amortized cost and fair value through other comprehensive income* and *Interest expense from financial instruments measured at amortized cost*.

UBS AG also presents interest income and expense on financial instruments (excluding derivatives) measured at FVTPL including forward points on certain short- and long-duration foreign exchange contracts separately in *Interest income* (or *Interest expense*) *from financial instruments measured at fair value through profit or loss*. Furthermore, interest income and expense on derivatives designated as hedging instruments in effective hedge relationships are presented consistently with the interest income and expense of the respective hedged item.

Interest income on financial assets, excluding derivatives, is included in interest income when positive and in *Interest expense* when negative, because negative interest income arising on a financial asset does not meet the definition of revenue. Similarly, interest expense on financial liabilities, excluding derivatives, is included in interest expense, except when interest rates are negative, in which case it is included in interest income.

→ **Refer to item 3j in this Note and Note 3 for more information**

d. Derecognition

Financial assets

UBS AG derecognizes a financial asset, or a portion of a financial asset, from its balance sheet when the contractual rights to cash flows from the asset have expired, or have been transferred, usually by sale, thus exposing the purchaser to either substantially all the risks and rewards of the asset or a significant part of the risks and rewards combined with a practical ability to sell or pledge the asset.

A financial asset is considered to have been transferred when UBS AG: (i) transfers the contractual rights to receive the cash flows of the financial asset; or (ii) retains the contractual rights to receive the cash flows of that asset, but assumes a contractual obligation to pay the cash flows to one or more entities.

Where financial assets have been pledged as collateral or in similar arrangements, they are considered to have been transferred if the counterparty has received the contractual right to the cash flows of the pledged assets, as may be evidenced, for example, by the counterparty's right to sell or repledge the assets. Where the counterparty to the pledged financial assets has not received the contractual right to the cash flows, UBS AG does not consider this to be a transfer for the purposes of derecognition.

Note 1 Summary of significant accounting policies (continued)

In transactions where substantially all of the risks and rewards of ownership of a financial asset are neither retained nor transferred, UBS AG derecognizes the financial asset if control over the asset is surrendered, and the rights and obligations retained following the transfer are recognized separately as assets and liabilities, respectively. In transfers where control over the financial asset is retained, UBS AG continues to recognize the asset to the extent of its continuing involvement, determined by the extent to which it is exposed to changes in the value of the transferred asset following the transfer.

Certain over-the-counter (OTC) derivative contracts and most exchange-traded futures and option contracts cleared through central clearing counterparties and exchanges are considered to be settled on a daily basis through the daily margining process, as the payment or receipt of the variation margin represents legal or economic settlement of a derivative contract, which results in derecognition of the associated positive and negative replacement values.

→ **Refer to item 3h of this Note and Note 25 for more information**

Financial liabilities

UBS AG derecognizes a financial liability from its balance sheet when it is extinguished; i.e., when the obligation specified in the contract is discharged, canceled or expires. When an existing financial liability is exchanged for a new one from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification results in derecognition of the original liability and the recognition of a new liability with any difference in the respective carrying amounts being recognized in the income statement.

e. Securities borrowing / lending and repurchase / reverse repurchase transactions

Securities borrowing / lending and repurchase / reverse repurchase transactions are generally entered into on a collateralized basis. In such transactions, UBS AG typically borrows or lends equity and debt securities in exchange for securities or cash collateral.

These transactions are treated as collateralized financing transactions where the securities transferred / received are not derecognized or recognized on the balance sheet. Securities transferred / received with the right to resell or repledge are disclosed separately.

In reverse repurchase and securities borrowing agreements, the cash delivered is derecognized and a corresponding receivable, including accrued interest, is recorded in the balance sheet line *Receivables from securities financing transactions,* representing UBS AG's right to receive the cash. Similarly, in repurchase and securities lending agreements, the cash received is recognized and a corresponding obligation, including accrued interest, is recorded in *Payables from securities financing transactions*. Additionally, the sale of securities that is settled by delivering securities received in reverse repurchase or securities borrowing transactions triggers the recognition of a trading liability.

Repurchase and reverse repurchase transactions with the same counterparty, maturity, currency and central securities depository are generally presented net, subject to meeting the offsetting requirements described in item 3i of this Note.

→ **Refer to Notes 26 and 25 for more information**

f. Fair value of financial instruments

UBS AG accounts for a significant portion of its assets and liabilities at fair value. Fair value is the price on the measurement date that would be received for the sale of an asset or paid to transfer a liability in an orderly transaction between market participants in the principal market, or in the most advantageous market in the absence of a principal market.

All financial instruments measured at fair value are categorized into one of three fair value hierarchy levels. Level 1 financial instruments are those for which fair values can be derived from quoted prices in active markets. Level 2 financial instruments are those for which fair values must be derived using valuation techniques for which all significant inputs are, or are based on, observable market data. Level 3 financial instruments are those for which fair values can only be derived on the basis of valuation techniques for which significant inputs are not based on observable market data.

Critical accounting estimates and judgments

The use of valuation techniques, modeling assumptions and estimates of unobservable market inputs in the fair valuation of financial instruments requires significant judgment and could affect the amount of gain or loss recorded for a particular position. Valuation techniques that rely more heavily on unobservable inputs inherently require a higher level of judgment than those entirely based on observable inputs.

Valuation techniques, including models, that are used to determine fair values are periodically reviewed and validated by qualified personnel, independent of those who created them. Models are calibrated with the objective of ensuring that outputs reflect observable market data, to the extent possible. Also, UBS AG prioritizes the use of observable inputs, when available, over unobservable inputs. Judgment is required in selecting appropriate models as well as inputs for which observable data is less readily available.

UBS AG's governance framework over fair value measurement is described in Note 24b.

The level of subjectivity and the degree of management judgment involved in the development of estimates and the selection of assumptions are more significant for instruments valued using specialized and sophisticated models and where some or all of the parameter inputs are less observable (Level 3 instruments) and may require adjustment to reflect factors that market participants would consider in estimating fair value, such as close-out costs, credit exposure, model-driven valuation uncertainty, funding costs and benefits, trading restrictions and other factors, which are presented in Note 24d. UBS AG provides a sensitivity analysis of the estimated effects arising from changing significant unobservable inputs in Level 3 financial instruments to reasonably possible alternative assumptions within Note 24g.

→ **Refer to Note 24 for more information**

g. Allowances and provisions for expected credit losses

Policy applicable from 1 January 2018[1]

Expected credit losses (ECL) are recognized for financial assets measured at amortized cost, financial assets measured at FVOCI, fee and lease receivables, financial guarantees and loan commitments. ECL are also recognized on the undrawn portion of revolving revocable credit lines, which include UBS AG's credit card limits and master credit facilities, which are customary in the Swiss market for corporate and commercial clients. UBS AG refers to both as "other credit lines," with clients allowed to draw down on-demand balances (with the Swiss master credit facilities also allowing for term products) and which can be terminated by UBS AG at any time. Though these other credit lines are revocable, UBS AG is exposed to credit risk because the client has the ability to draw down funds before UBS AG can take credit risk mitigation actions.

Recognition of expected credit losses

ECL represent the difference between contractual cash flows and those UBS AG expects to receive, discounted at the EIR. For loan commitments and other credit facilities in scope of ECL, expected cash shortfalls are determined by considering expected future drawdowns.

ECL are recognized on the following basis:

- Maximum 12-month ECL are recognized from initial recognition, reflecting the portion of lifetime cash shortfalls that would result if a default occurs in the 12 months after the reporting date, weighted by the risk of a default occurring. Instruments in this category are referred to as instruments in stage 1. For instruments with a remaining maturity of less than 12 months, ECL are determined for this shorter period.
- Lifetime ECL are recognized if a significant increase in credit risk (SICR) is observed subsequent to the instrument's initial recognition, reflecting lifetime cash shortfalls that would result from all possible default events over the expected life of a financial instrument, weighted by the risk of a default occurring. Instruments in this category are referred to as instruments in stage 2. Where an SICR is no longer observed, the instrument will move back to stage 1.
- Lifetime ECL are always recognized for credit-impaired financial instruments, referred to as instruments in stage 3. The IFRS 9 determination of whether an instrument is credit-impaired is based on the occurrence of one or more loss events, with lifetime ECL generally derived by estimating expected cash flows based on a chosen recovery strategy. Credit-impaired exposures may include positions for which no loss has occurred or no allowance has been recognized, for example, because they are expected to be fully recoverable through the collateral held.
- Changes in lifetime ECL since initial recognition are also recognized for assets that are purchased or originated credit-impaired (POCI). POCI financial assets are initially recognized at fair value, with interest income subsequently being recognized based on a credit-adjusted EIR. POCI financial instruments include those that are newly recognized following a substantial restructuring and remain a separate category until derecognition.

UBS AG does not apply the low-credit-risk practical expedient that allows a lifetime ECL for lease or fee receivables to be recognized irrespective of whether a significant increase in credit risk has occurred. Instead, UBS AG has incorporated lease and fee receivables into the standard ECL calculation.

[1] The accounting policy in this section applies from 1 January 2018, the effective date of IFRS 9.

Note 1 Summary of significant accounting policies (continued)

A write-off is made when all or part of a financial asset is deemed uncollectible or forgiven. Write-offs reduce the principal amount of a claim and are charged against previously established allowances for credit losses. Recoveries, in part or in full, of amounts previously written off are generally credited to *Credit loss (expense) / recovery*. Write-offs and partial write-offs represent derecognition / partial derecognition events.

ECL are recognized in profit or loss with a corresponding ECL allowance reported as a decrease in the carrying amount of financial assets measured at amortized cost on the balance sheet. For financial assets measured at fair value through OCI, the carrying amount is not reduced, but an accumulated amount is recognized in OCI. For off-balance sheet financial instruments and other credit lines, provisions for ECL are reported in *Provisions*. ECL are recognized within the income statement in *Credit loss (expense) / recovery.*

Default and credit impairment

UBS AG applies a single definition of default for classifying assets and determining the probability of default of its obligors for risk modeling purposes. The definition of default is based on quantitative and qualitative criteria. A counterparty is classified as defaulted at the latest when material payments of interest, principal or fees are overdue for more than 90 days, or more than 180 days for certain exposures in relation to loans to private and commercial clients in Personal & Corporate Banking, and to private clients of Global Wealth Management Region Switzerland. UBS AG does not consider the general 90-day presumption for default recognition appropriate for these latter portfolios based on an analysis of the cure rates, which demonstrated that strict application of the 90-day criterion would not accurately reflect the inherent credit risk. Counterparties are also classified as defaulted when bankruptcy, insolvency proceedings or enforced liquidation have commenced; obligations have been restructured on preferential terms (forbearance); or there is other evidence that payment obligations will not be fully met without recourse to collateral. The latter may be the case even if, to date, all contractual payments have been made when due. If a counterparty is defaulted, generally all claims against the counterparty are treated as defaulted.

An instrument is classified as credit-impaired if the counterparty is defaulted, and/or the instrument is identified as POCI. An instrument is POCI if it has been purchased at a deep discount to its carrying amount following a risk event of the issuer or originated with a defaulted counterparty. Once a financial asset is classified as defaulted / credit-impaired (except when it is POCI), it is reported as a stage 3 instrument and remains as such unless all past due amounts have been rectified, additional payments have been made on time, the position is not classified as credit-restructured, and there is general evidence of credit recovery. A three-month probation period is applied before a transfer back to stages 1 or 2 can be triggered. However, most instruments remain in stage 3 for a longer period.

Measurement of expected credit losses

IFRS 9 ECL reflect an unbiased, probability-weighted estimate based on either loss expectations resulting from default events over a maximum 12-month period from the reporting date or over the remaining life of a financial instrument. The method used to calculate individual probability-weighted unbiased ECL is based on a combination of the following principal factors: probability of default (PD), loss given default (LGD) and exposure at default (EAD). Parameters are generally determined on an individual financial asset level. Based on the materiality of the portfolio, for credit card exposures and personal account overdrafts in Switzerland, and certain loans to financial advisors of Global Wealth Management Region Americas, a portfolio approach is applied that derives an average PD and LGD for the entire portfolio. PDs and LGDs used in the ECL calculation are point in time (PIT)-based for key portfolios and consider both current conditions and expected cyclical changes. For each instrument or group of instruments, parameter time series are generated consisting of the instruments' PD, LGD and EAD profiles considering the respective period of exposure to credit risk. For material portfolios, PD and LGD are determined for four different scenarios, whereas EAD projections are treated as scenario independent.

For the purpose of determining the ECL-relevant parameters, UBS AG leverages its Pillar 1 internal ratings-based (IRB) models that are also used in determining expected loss (EL) and risk-weighted assets under the Basel III framework and Pillar 2 stress loss models. Adjustments have been made to these models and new IFRS 9-related models have been developed that consider the complexity, structure and risk profile of relevant portfolios and take account of the fact that PDs and LGDs used in the ECL calculation are PIT-based, as opposed to the corresponding Basel III through-the-cycle (TTC) parameters. All models that are relevant for measuring expected credit losses have been subject to the existing model validation and oversight processes. The assignment of internal counterparty rating grades and the determination of default probabilities for the purposes of Basel III are not affected by the IFRS 9 ECL calculation.

Probability of default (PD): The PD represents the likelihood of a default over a specified time period. A 12-month PD represents the likelihood of default determined for the next 12 months and a lifetime PD represents the probability of default over the remaining lifetime of the instrument. The lifetime PD calculation is based on a series of 12-month PIT PDs that are derived from TTC PDs and scenario forecasts. This modeling is region-, industry- and client segment-specific and considers both macroeconomic scenario-dependencies and client-idiosyncratic information. To derive the cumulative lifetime PD per scenario, the series of 12-month PIT PDs are transformed into marginal PIT PDs, taking any assumed default events from prior periods into account.

Loss given default (LGD): The LGD represents an estimate of the loss at the time of a potential default occurring during the life of a financial instrument. The determination of the LGD takes into account expected future cash flows from collateral and other credit enhancements, or expected payouts from bankruptcy proceedings for unsecured claims and, where applicable, time to realization of collateral and the seniority of claims. The LGD is commonly expressed as a percentage of the EAD.

Exposure at default (EAD): The EAD represents an estimate of the exposure to credit risk at the time of a potential default occurring during the life of a financial instrument. It represents the cash flows outstanding at the time of default, considering expected repayments, interest payments and accruals, discounted at the EIR. Future drawdowns on facilities are considered through a credit conversion factor (CCF) that is reflective of historical drawdown and default patterns and the characteristics of the respective portfolios. ECL-specific CCFs have been modeled to capture client segment- and product-specific patterns after removing Basel III standard-specific elements, i.e., conservatism and focus on a 12-month period prior to default.

Estimation of expected credit losses

Number of scenarios and estimation of scenario weights

The determination of the probability-weighted ECL requires evaluating a range of diverse and relevant future economic conditions, especially with a view to modeling the non-linear effect of assumptions about macroeconomic factors on the estimate.

To accommodate this requirement, UBS AG uses four different economic scenarios in the ECL calculation: an upside, a baseline, a mild downside and a severe downside scenario. Each scenario is represented by a specific scenario narrative, which is relevant considering the exposure of key portfolios to economic risks, and for which a set of consistent macroeconomic variables is determined. Those variables range from above-trend economic growth to severe recession. The baseline scenario is aligned to the economic and market assumptions used for UBS AG business planning purposes. An econometric model is used to provide an input into the scenario weight assessment process giving a first indication of the probability that the GDP forecast used for each scenario would materialize, if historically observed deviations of GDP growth from trend growth were representative. As such historical analyses of GDP development do not include an assessment of the underlying economic or political causes, management positions the model output into the context of current conditions and future expectations and applies material judgment in determining the final scenario weights. The determined weights constitute the probabilities that the respective set of macroeconomic conditions will occur and not that the chosen particular narratives with the related macroeconomic variables will materialize.

Macroeconomic and other factors

The range of macroeconomic, market and other factors that is modeled as part of the scenario determination is wide, and historical information is used to support the identification of the key factors. As the forecast horizon increases, the availability of information decreases and judgment increases. For cycle-sensitive PD and LGD determination purposes, UBS AG projects the relevant economic factors for a period of three years before reverting, over a specified period, to a cycle-neutral PD and LGD for longer-term projections.

Factors relevant for the ECL calculation vary by type of exposure and are determined during the credit cycle index model development process in close alignment with expert judgment. Certain variables may only be relevant for specific types of exposures, such as house price indices for mortgage loans, while other variables have key relevance in the ECL calculation for all exposures. Regional and client segment characteristics are generally taken into account, with specific focus on Switzerland and the US considering UBS AG's key ECL-relevant portfolios.

For UBS AG, the following forward-looking macroeconomic variables represent the most relevant factors in the ECL calculation:

- GDP growth rates, given their significant effect on borrowers' performance;
- house price indices, given their significant effect on mortgage collateral valuations;
- unemployment rates, given their significant effect on private clients' ability to meet contractual obligations;
- interest rates, given their significant effect on the counterparties' abilities to service debt;
- consumer price indices, given their overall relevance for companies' performance, private clients' purchasing power and economic stability; and
- equity indices, given that they are an important factor in our corporate rating tools.

The forward-looking macroeconomic assumptions used in the ECL calculation are developed by UBS AG economists, risk methodology personnel and credit risk officers. Assumptions and scenarios are validated and approved through a Scenario Committee and an Operating Committee, which also aim to ensure a consistent use of forward-looking information throughout UBS AG, including in the business planning process. ECL inputs are tested and reassessed for appropriateness at least once a quarter and appropriate adjustments are made when needed.

Scenario generation, review process and governance

All aspects of the scenario selection, including the specific narratives, their weight for the ECL estimation, and the key macroeconomic and other factors, are subject to a formal governance and approval process.

Note 1 Summary of significant accounting policies (continued)

A team of economists, who are part of Group Risk Control, provide the basic analysis taking into account information obtained through established risk identification and assessment processes, which involve a broad range of experts, in particular, risk specialists and other in-house economists. Material risks with a high likelihood of materializing are then factored into the scenario selection process. Once narratives have been developed, key macroeconomic factors that are consistent with the severity of the case and interdependencies are determined.

The scenarios, their weight and the key macroeconomic and other factors are subject to a critical assessment by members of the Scenario Committee, where senior credit officers from the divisions and representatives from Group Risk Control are represented. Important aspects for the review are the extent to which the selected scenarios reflect the vulnerabilities of the relevant portfolios; whether their transformation into PIT PD and LGD values is in line with credit risk officers' expectations; and whether there may be pockets of exposures, where particular credit risk concerns may not be capable of being addressed systematically and require an expert-based overlay for stage allocation and ECL allowance. This also ensures a consistent use of forward-looking information throughout UBS AG and an alignment with the business planning process.

The Operating Committee is jointly chaired by the Group Controller and Chief Accounting Officer, and the Risk Chief Operating Officer and Group Chief Risk Model Officer, and is comprised of the divisional Chief Risk Officers and divisional Chief Financial Officers as well as senior Corporate Center Risk and Finance representatives. They review the proposals submitted by the Scenario Committee and approve the final selection of scenarios and factors and any expert-based overlays as they may be required to cover temporary issues, either related to specific risk elements in a portfolio, or due to identified technical deficiencies pending remediation (model updates, data quality, etc.).

The Group Model Governance Board, as the highest authority under UBS AG's model governance framework, ratifies the decisions by the Operating Committee.

ECL measurement period

The period for which lifetime ECL are determined is based on the maximum contractual period that UBS AG is exposed to credit risk, taking into account contractual extension, termination and prepayment options. For irrevocable loan commitments and financial guarantee contracts, the measurement period represents the maximum contractual period for which UBS AG has an obligation to extend credit.

Additionally, some financial instruments include both an on-demand loan and a revocable undrawn commitment, where the contractual cancelation right does not limit UBS AG's exposure to credit risk to the contractual notice period, as the client has the ability to draw down funds before UBS AG can take risk-mitigating actions. In such cases, UBS AG is required to estimate the period over which it is exposed to credit risk. This applies to UBS AG's credit card limits, which do not have a defined contractual maturity date, are callable on demand and where the drawn and undrawn components are managed as one unit. The exposure arising from UBS AG's credit card limits is not significant and is managed at a portfolio level, with credit actions triggered when balances are past due. An ECL measurement period of seven years is applied for credit card limits, capped at 12 months for stage 1 balances, as a proxy for the period that UBS AG is exposed to credit risk.

Customary master credit agreements in the Swiss corporate market also include on-demand loans and revocable undrawn commitments. For smaller commercial facilities, a risk-based monitoring (RbM) approach is in place that highlights negative trends as risk events, at an individual facility level, based on a combination of continuously updated risk indicators. The risk events trigger additional credit reviews by a risk officer, allowing for informed credit decisions to be taken. Larger corporate facilities are not subject to RbM, but are reviewed at least annually through a formal credit review. UBS AG has assessed these credit risk management practices and considers both the RbM approach and formal credit review as substantive credit reviews resulting in a re-origination of the facility. Following this, a 12-month measurement period from the reporting date is used for both types of facilities as an appropriate proxy of the period over which UBS AG is exposed to credit risk, with 12 months also used as a look-back period for assessing SICR, always from the respective reporting date.

Significant increase in credit risk

Financial instruments subject to ECL are monitored on an ongoing basis. To determine whether the recognition of a maximum 12-month ECL continues to be appropriate, an assessment is made as to whether an SICR has occurred since initial recognition of the financial instrument. The assessment criteria include both quantitative and qualitative factors. UBS AG does not make use of the expedient that no particular SICR test is required for instruments that have low credit risk at reporting date.

Primarily, UBS AG assesses changes in an instrument's risk of default on a quantitative basis by comparing the annualized forward-looking and scenario-weighted lifetime PD of an instrument determined at two different dates:
– at the reporting date; and
– at inception of the instrument.

In both cases, the respective PDs are determined for the residual lifetime of the instrument, i.e., the period between the reporting date and maturity. If, based on UBS AG's quantitative modeling, an increase exceeds a set threshold, an SICR is deemed to have occurred and the instrument is transferred to stage 2 with lifetime ECL being recognized.

The threshold applied varies depending on the original credit quality of the borrower. For instruments with lower default probabilities at inception due to good credit quality of the counterparty, the SICR threshold is set at a higher level than for instruments with higher default probabilities at inception. This implies that for instruments with initially lower default probabilities, a relatively higher deterioration in credit quality is needed to trigger an SICR than for those instruments with originally higher PDs. The SICR assessment based on PD changes is made at an individual financial asset level. A high-level overview of the SICR trigger, which is a multiple of the annualized remaining lifetime PIT PD expressed in rating downgrades that entail the same multiple of PD values, together with the corresponding ratings at origination of an instrument, is provided in the "SICR thresholds" table below. This simplified view is aligned to internal ratings as disclosed in "Internal UBS AG rating scale and mapping of external ratings" presented in "Credit risk" in the "Risk management and control" section of this report. The actual SICR thresholds applied are defined on a more granular level interpolating between the values shown in the table below.

SICR thresholds

Internal rating at origination of the instrument	Rating downgrades / SICR trigger
0–3	3
4–8	2
9–13	1

→ **Refer to the "Risk management and control" section of this report for more details about the bank's internal grading system**

Irrespective of the SICR assessment based on default probabilities, credit risk is generally deemed to have significantly increased for an instrument if the contractual payments are more than 30 days past due. For certain less material portfolios, specifically the Swiss credit card portfolio and the loans to financial advisors of Global Wealth Management Region Americas, the 30-day past due criterion is used as the primary indicator of an SICR. Where instruments are transferred to stage 2 due to the 30-day past due criterion, a minimum period of six months is applied before a transfer back to stage 1 can be triggered. For instruments in Personal & Corporate Banking and Global Wealth Management Region Switzerland that are between 90 and 180 days past due but have not been reclassified to stage 3, a one-year period is applied before a transfer back to stage 1 can be triggered.

Additionally, based on individual counterparty-specific indicators, external market indicators of credit risk or general economic conditions, counterparties may be moved to a watch list, which is used as a secondary qualitative indicator for an SICR and hence for a transfer to stage 2. Exception management is further applied, allowing for individual and collective adjustments on exposures sharing the same credit risk characteristics to take account of specific situations that are not otherwise fully reflected. Instruments for which an SICR since initial recognition is determined based on criteria other than changed default probabilities or watch list items remain in stage 2 for at least six months post resolution of the stage 2 trigger event.

In general, the overall SICR determination process does not apply to Lombard loans, securities financing transactions and certain other asset-based lending transactions, because of the risk management practices adopted, including daily monitoring processes with strict margining requirements that often require the delivery of collateral within a number of days. If margin calls are not satisfied, a position is closed out and classified as a stage 3 position. In exceptional cases, an individual adjustment and a transfer into stage 2 may be made to take account of specific facts.

Credit risk officers are responsible for ensuring that the stage allocation of instruments reflects the identification of an SICR, which for accounting purposes is in some aspects different from internal credit risk management processes for loans with increased credit risk, mainly because ECL accounting requirements are instrument-specific, such that a borrower can have multiple exposures allocated to different stages, and that maturing loans in stage 2 will migrate to stage 1 upon renewal irrespective of the actual credit risk at that time. Under a risk-based approach, a holistic counterparty credit assessment and the absolute level of risk at any given date will determine what risk mitigating actions may be warranted.

→ **Refer to the "Risk management and control" section of this report for more information**

Note 1 Summary of significant accounting policies (continued)

Critical accounting estimates and judgments

The calculation of ECL requires management to apply significant judgment and make estimates and assumptions that involve significant uncertainty at the time they are made. Changes to these estimates and assumptions can result in significant changes to the timing and amount of ECL to be recognized.

Determination of a significant increase in credit risk
IFRS 9 does not include a definition of what constitutes an SICR. UBS AG's assessment of whether an SICR has occurred since initial recognition is based on reasonable and supportable forward-looking information, both qualitative and quantitative, and includes significant management judgment. More stringent criteria could significantly increase the number of instruments migrating to stage 2. An IFRS 9 Operating Committee has been established to review and challenge the SICR approach and any potential changes and determinations made in the quarter.

Scenarios, scenario weights and macroeconomic factors
ECL reflect an unbiased and probability-weighted amount, which UBS AG determines by evaluating a range of possible outcomes. Management selects forward-looking scenarios and judges the suitability of respective weights to be applied. Each of the scenarios is based on management's assumptions around future economic conditions in the form of macroeconomic, market and other factors. Changes in the scenarios and weights, the corresponding set of macroeconomic variables and the assumptions made around those variables for the forecast horizon would have a significant effect on the ECL. An IFRS 9 Scenario Committee, in addition to the Operating Committee, has been established to derive, review and challenge the selection and weights.

ECL measurement period
Lifetime ECL are generally determined based upon the contractual maturity of the transaction, which significantly affects ECL. The ECL calculation is therefore sensitive to any extension of contractual maturities triggered by business decisions, consumer behaviors and an increased number of stage 2 positions. In addition, for credit card limits and Swiss callable master credit facilities, judgment is required as UBS AG must determine the period over which it is exposed to credit risk. A seven-year period has been applied for credit card limits, capped at 12 months for stage 1 positions, and a 12-month period has been applied for master credit facilities.

Modeling and management adjustments
A number of complex models have been developed or modified to calculate ECL, with additional management adjustments required. Internal counterparty rating changes, new or revised models and changes to data may significantly affect ECL. The models are governed by UBS AG's model validation controls, which aim to ensure independent verification, and are approved by the Group Model Governance Board (the GMGB). The management adjustments are approved by the IFRS 9 Operating Committee and endorsed by the GMGB.

UBS AG provides a sensitivity analysis of the effect of scenario selection, scenario weights and SICR trigger points on ECL measurement within Note 23g.

Comparative policy | *Policy applicable prior to 1 January 2018*
A claim is impaired and an allowance or provision for credit losses is recognized when objective evidence demonstrates that a loss event has occurred after the initial recognition and that the loss event has an effect on the future cash flows that can be reliably estimated (incurred loss approach). UBS AG considers a claim to be impaired if it will be unable to collect all amounts due thereon based on the original contractual terms as a result of credit deterioration of the issuer or counterparty. A claim can be a loan or receivable measured at amortized cost, or a commitment, such as a letter of credit, a guarantee or a similar instrument.

An allowance for credit losses is reported as a decrease in the carrying amount of a financial asset. For an off-balance sheet item, such as a commitment, a provision for credit losses is reported in *Provisions*. Changes to allowances and provisions for credit losses are recognized in *Credit loss (expense) / recovery*.

Critical accounting estimates and judgments

Allowances and provisions for credit losses are evaluated at both a counterparty-specific level and collectively. Judgment is used in making assumptions about the timing and amount of impairment losses.

Counterparty-specific allowances and provisions

Loans are evaluated individually for impairment if objective evidence indicates that a loan may be impaired. Individual credit exposures are evaluated on the basis of the borrower's overall financial condition, resources and payment record, the prospects of support from contractual guarantors and, where applicable, the realizable value of any collateral. The impairment loss for a loan is the excess of the carrying amount of the financial asset over the estimated recoverable amount. The estimated recoverable amount is the present value, calculated using the loan's original effective interest rate, of expected future cash flows, including amounts that may result from restructuring or the liquidation of collateral. If a loan has a variable interest rate, the discount rate for calculating the recoverable amount is the current effective interest rate. Upon impairment, interest income is accrued by applying the original effective interest rate to the impaired carrying amount of the loan.

All impaired loans are reviewed and analyzed at least annually. Any subsequent changes to the amounts and timing of the expected future cash flows compared with prior estimates result in a change in the allowance for credit losses and are charged or credited to *Credit loss (expense) / recovery*. An allowance for impairment is reversed only when the credit quality has improved to such an extent that there is reasonable assurance of timely collection of principal and interest in accordance with the original contractual terms of the instrument, or the equivalent value thereof. A write-off is made when all or part of a financial asset is deemed uncollectible or forgiven. Write-offs reduce the principal amount of a claim and are charged against previously established allowances for credit losses. Recoveries, in part or in full, of amounts previously written off are credited to *Credit loss (expense) / recovery.*

Collective allowances and provisions

Collective allowances and provisions are calculated for portfolios with similar credit risk characteristics, taking into account historical loss experience and current conditions. The methodology and assumptions used are reviewed regularly to reduce any differences between estimated and actual loss experience. For all of its portfolios, UBS AG also assesses whether there have been any unforeseen developments that might result in impairments that are not immediately observable at a counterparty level. To determine whether an event-driven collective allowance for credit losses is required, UBS AG considers global economic drivers to assess the most vulnerable countries and industries. As the allowance cannot be allocated to individual loans, the loans are not considered to be impaired and interest is accrued on each loan according to its contractual terms. If objective evidence becomes available that indicates that an individual financial asset is impaired, it is removed from the group of financial assets assessed for impairment on a collective basis and is assessed separately as counterparty-specific.

Impairment of financial assets classified as available for sale

At each balance sheet date, UBS AG assesses whether indicators of impairment are present. Available-for-sale debt instruments are impaired when there is objective evidence, using the same criteria described on the previous page, that, as a result of one or more events that occurred after the initial recognition of the asset, the estimated future cash flows have decreased.

Objective evidence that there has been an impairment of an available-for-sale equity instrument is a significant or prolonged decline in the fair value of the asset. UBS AG uses a rebuttable presumption that such instruments are impaired where there has been a decline in fair value of more than 20% below its original cost or fair value has been below original cost for more than six months.

To the extent a financial asset classified as available for sale is determined to be impaired, the related cumulative net unrealized loss previously recognized in *Other comprehensive income* is reclassified to the income statement within *Other income*. For equity instruments, any further loss is recognized directly in the income statement, whereas for debt instruments, any further loss is recognized in the income statement only if there is additional objective evidence of impairment. After the recognition of an impairment on a financial asset classified as available for sale, increases in the fair value of equity instruments are reported in *Other comprehensive income.* For debt instruments, such increases in the fair value, up to amortized cost in the transaction currency, are recognized in *Other income,* provided that the fair value increase is related to an event occurring after the impairment loss was recorded. Increases in excess of that amount are reported in *Other comprehensive income*. ▲

h. Restructured and modified financial assets

When payment default is expected or where default has already occurred, UBS AG may grant concessions to borrowers in financial difficulties that it would otherwise not consider in the normal course of its business, such as preferential interest rates, extension of maturity, modifying the schedule of repayments, debt / equity swap, subordination, etc. When a concession or forbearance measure is granted, each case is considered individually and the exposure is generally classified as being in default. Forbearance classification will remain until the loan is collected or written off, non-preferential conditions are granted that supersede the preferential conditions or until the counterparty has recovered and the preferential conditions no longer exceed our risk tolerance.

Contractual adjustments when there is no evidence of imminent payment default, or where changes to terms and conditions are within UBS AG's usual risk tolerance, are not considered to be in forbearance. Modifications represent contractual amendments that result in an alteration of future contractual cash flows and that can occur within UBS AG's normal risk tolerance or as part of a credit restructuring where a counterparty is in financial difficulties.

A restructuring or modification of a financial asset could lead to a substantial change in the terms and conditions, resulting in the original financial asset being derecognized and a new financial asset being recognized. Where the modification does not result in a derecognition, any difference between the modified contractual cash flows discounted at the original EIR and the existing gross carrying amount of a financial asset is recognized in profit or loss as a modification gain or loss. Furthermore, the subsequent SICR assessment is made by comparing the risk of default at the reporting date based on the modified contractual terms of the financial asset with the risk of default at initial recognition based on the original, unmodified contractual terms of the financial asset.

Note 1 Summary of significant accounting policies (continued)

i. Offsetting

UBS AG nets financial assets and liabilities on its balance sheet if (i) it has the unconditional and legally enforceable right to set off the recognized amounts, both in the normal course of business and in the event of default, bankruptcy or insolvency of UBS AG and all of the counterparties, and (ii) intends either to settle on a net basis or to realize the asset and settle the liability simultaneously. Netted positions include, for example, certain derivatives and repurchase and reverse repurchase transactions with various counterparties, exchanges and clearing houses.

In assessing whether UBS AG intends to either settle on a net basis, or to realize the asset and settle the liability simultaneously, emphasis is placed on the effectiveness of operational settlement mechanics in eliminating substantially all credit and liquidity exposure between the counterparties. This condition precludes offsetting on the balance sheet for substantial amounts of UBS AG's financial assets and liabilities, even though they may be subject to enforceable netting arrangements. For OTC derivative contracts, balance sheet offsetting is generally only permitted in circumstances in which a market settlement mechanism exists via an exchange or central clearing counterparty that effectively accomplishes net settlement through a daily exchange of collateral via a cash margining process. For repurchase arrangements and securities financing transactions, balance sheet offsetting may be permitted only to the extent that the settlement mechanism eliminates, or results in insignificant, credit and liquidity risk, and processes the receivables and payables in a single settlement process or cycle.

→ **Refer to Note 25 for more information**

j. Hedge accounting

UBS AG uses derivative and non-derivative instruments to manage exposures to interest rate and foreign currency risks, including exposures arising from forecast transactions. UBS AG continues to apply hedge accounting requirements as set out in IAS 39. Qualifying instruments may be designated as hedging instruments in: (i) hedges of the change in fair value of recognized assets or liabilities (fair value hedges); (ii) hedges of the variability in future cash flows attributable to a recognized asset or liability or highly probable forecast transactions (cash flow hedges); or (iii) hedges of a net investment in a foreign operation (net investment hedges).

At the time a financial instrument is designated in a hedge relationship, UBS AG formally documents the relationship between the hedging instrument(s) and hedged item(s), including the risk management objectives and strategy in undertaking the hedge transaction and the methods that will be used to assess the effectiveness of the hedging relationship. Accordingly, UBS AG assesses, both at the inception of the hedge and on an ongoing basis, whether the hedging instruments, primarily derivatives, have been "highly effective" in offsetting changes in the fair value or cash flows associated with the designated risk of the hedged items.

A hedge is considered highly effective if the following criteria are met: (i) at inception of the hedge and throughout its life, the hedge is expected to be highly effective in achieving offsetting changes in fair value or cash flows attributable to the hedged risk; and (ii) actual results of the hedge are within a range of 80–125%. In the case of hedging forecast transactions, the transaction must have a high probability of occurring and must present an exposure to variations in cash flows that could ultimately affect the reported net profit or loss. UBS AG discontinues hedge accounting when: (i) it determines that a hedging instrument is not, or has ceased to be, highly effective as a hedge; (ii) the derivative expires or is sold, terminated or exercised; (iii) the hedged item matures, is sold or repaid; or (iv) forecast transactions are no longer deemed highly probable. UBS AG may also discontinue hedge accounting voluntarily.

Hedge ineffectiveness represents the amount by which the changes in the fair value of the hedging instrument differ from changes in the fair value of the hedged item attributable to the hedged risk, or the amount by which changes in the present value of future cash flows of the hedging instrument exceed changes in the present value of expected cash flows of the hedged item. Such ineffectiveness is recorded in current-period earnings in *Other net income from financial instruments measured at fair value through profit or loss* (prior to 1 January 2018: *Net trading income*).

Interest from derivatives designated as hedging instruments in effective fair value hedge relationships is presented within *Interest income from loans and deposits* and *Interest expense on debt issued*, within *Net interest income*. Interest from derivatives designated as hedging instruments in effective cash flow hedge relationships that is reclassified from other comprehensive income when the hedged transaction affects profit or loss is presented within *Interest income from derivative instruments designated as cash flow hedges*.

→ **Refer to Note 3 for more information**

Fair value hedges

For qualifying fair value hedges, the change in the fair value of the hedging instrument is recognized in the income statement along with the change in the fair value of the hedged item that is attributable to the hedged risk. In fair value hedges of interest rate risk, the fair value change of the hedged item attributable to the hedged risk is reflected as an adjustment to the carrying amount of the hedged item. If the hedge accounting relationship is terminated for reasons other than the derecognition of the hedged item, the adjustment to the carrying amount is amortized to the income statement over the remaining term to maturity of the hedged item using the effective interest rate method. For a portfolio hedge of interest rate risk, the equivalent change in fair value is reflected within *Other financial assets measured at amortized cost* or *Other financial liabilities measured at amortized cost*. If the portfolio hedge relationship is terminated for reasons other than the derecognition of the hedged item, the amount included in *Other financial assets measured at amortized cost* or *Other financial liabilities measured at amortized cost* is amortized to the income statement over the remaining term to maturity of the hedged items using the straight-line method.

Cash flow hedges

Fair value gains or losses associated with the effective portion of derivatives designated as cash flow hedges for cash flow repricing risk are recognized initially in *Other comprehensive income* within *Equity*. When the hedged forecast cash flows affect profit or loss, the associated gains or losses on the hedging derivatives are reclassified from *Equity* to the income statement.

If a cash flow hedge of forecast transactions is no longer considered effective, or if the hedge relationship is terminated, the cumulative gains or losses on the hedging derivatives previously reported in *Equity* remain there until the committed or forecast transactions occur and affect profit or loss. If the forecast transactions are no longer expected to occur, the deferred gains or losses are reclassified immediately to the income statement.

Hedges of net investments in foreign operations

Hedges of net investments in foreign operations are accounted for similarly to cash flow hedges. Gains or losses on the hedging instrument relating to the effective portion of the hedge are recognized directly in *Equity* (and presented in the statement of changes in equity and statement of comprehensive income under *Foreign currency translation*), while any gains or losses relating to the ineffective and/or undesignated portion (for example, the interest element of a forward contract) are recognized in the income statement. Upon disposal or partial disposal of the foreign operation, the cumulative value of any such gains or losses recognized in *Equity* associated with the entity is reclassified to *Other income*.

Economic hedges that do not qualify for hedge accounting

Derivative instruments that are transacted as economic hedges but do not qualify for hedge accounting are treated in the same way as derivative instruments used for trading purposes; i.e., realized and unrealized gains and losses are recognized in *Other net income from financial instruments measured at fair value through profit or loss* (prior to 1 January 2018: *Net trading income*), except for the forward points on certain short- and long-duration foreign exchange contracts, which are reported in *Net interest income*.

→ **Refer to Note 11 for more information**

k. Embedded derivatives in financial liabilities

Derivatives may be embedded in other financial instruments (host contracts). For example, they could be represented by the conversion feature embedded in a convertible bond. Such hybrid instruments arise predominantly from the issuance of certain structured debt instruments. An embedded derivative in a financial liability is generally required to be separated from the host contract and accounted for as a standalone derivative instrument at fair value through profit or loss if: (i) the host contract is not measured at fair value with changes in fair value reported in the income statement; (ii) the economic characteristics and risks of the embedded derivative are not closely related to the economic characteristics and risks of the host contract; and (iii) the terms of the embedded derivative would meet the definition of a standalone derivative, were they contained in a separate contract.

Typically, UBS AG applies the fair value option to hybrid instruments (refer to item 3b in this Note for more information), in which case bifurcation of an embedded derivative component is not required.

l. Financial liabilities

Financial liabilities measured at amortized cost include *Debt issued measured at amortized cost* and *Funding from UBS Group AG and its subsidiaries*, which constitute obligations of UBS AG arising from funding it has received from UBS Group AG or its subsidiaries, which are not within the UBS AG's scope of consolidation. The latter includes contingent capital instruments issued to UBS Group AG and its subsidiaries that contain contractual provisions under which the principal amounts would be written down upon either a specified CET1 ratio breach or a determination by FINMA that a viability event has occurred. Such contractual provisions are not derivatives as the underlying is deemed to be a non-financial variable specific to a party to the contract. Where there is a legal bail-in mechanism for write-down or conversion into equity (as is the case, for instance, with senior unsecured debt issued by UBS AG that is subject to write-down or conversion under resolution authority granted to FINMA under Swiss law), such a mechanism does not form part of the contractual terms and, therefore, does not affect the amortized cost accounting treatment applied to these instruments. If the debt were to be written down or converted into equity in a future period, the financial liability would be partially or fully derecognized, with the difference between the carrying amount of the debt written down or converted into equity and the fair value of any equity shares issued recognized in the income statement.

Note 1 Summary of significant accounting policies (continued)

In cases where, as part of UBS AG's risk management activity, fair value hedge accounting is applied to fixed-rate debt instruments measured at amortized cost, their carrying amount is adjusted for changes in fair value related to the hedged exposure. Refer to item 3j for more information about hedge accounting.

Debt issued and subsequently repurchased in relation to market-making or other activities is treated as redeemed. A gain or loss on redemption (depending on whether the repurchase price of the bond is lower or higher than its carrying amount) is recorded in *Other income*. A subsequent sale of own bonds in the market is treated as a reissuance of debt.

UBS AG uses the fair value option to designate certain issued debt instruments as financial liabilities designated at fair value through profit or loss, on the basis that such financial instruments include embedded derivatives and/or are managed on a fair value basis (refer to item 3b in this Note for more information).

m. Own credit

Changes in the fair value of financial liabilities designated at fair value through profit or loss related to own credit are recognized in *Other comprehensive income* directly within *Retained earnings* and will not be reclassified to the income statement in future periods.

n. Loan commitments

Policy applicable from 1 January 2018[1]

Loan commitments are arrangements under which clients can borrow stipulated amounts under defined terms and conditions.

Loan commitments that can be canceled at any time by UBS AG at its discretion are neither recognized on the balance sheet nor included in off-balance sheet disclosures.

Loan commitments that cannot be canceled by UBS AG once the commitments have been communicated to the beneficiary or that are revocable only because of automatic cancelation upon deterioration in a borrower's creditworthiness are considered irrevocable and are classified as: (i) derivative loan commitments measured at fair value through profit or loss; (ii) loan commitments designated at fair value through profit or loss; or (iii) other loan commitments.

UBS AG recognizes ECL on non-cancelable other loan commitments and those that can be canceled at any time if UBS AG is exposed to credit risk (refer to item 3g in this Note). Corresponding ECL are presented within *Provisions* on UBS AG's balance sheet. ECL relating to these other loan commitments are recorded in the income statement in *Credit loss (expense) / recovery*.

When a client draws on a commitment, the resulting loan is presented within *Financial assets at fair value held for trading,* or within *Financial assets at fair value not held for trading* when the associated loan commitments are measured at fair value through profit or loss, and within *Loans and advances to customers* when the associated loan commitment is not measured at fair value through profit or loss.

Comparative policy | *Policy applicable prior to 1 January 2018*

When a client draws on a commitment, the resulting loan is classified as a: (i) trading asset, consistent with the associated derivative loan commitment; (ii) financial asset designated at fair value through profit or loss, consistent with the loan commitment designated at fair value through profit or loss; or as a (iii) loan when the associated loan commitment is accounted for as other loan commitments which are not measured at fair value through profit or loss. Consistent with item 3g above, claims under other loan commitments are impaired and an allowance or provision for credit losses is recognized when objective evidence demonstrates that a loss event has occurred after the initial recognition and that the loss event has an effect on the future cash flows that can be reliably estimated (incurred loss approach).▲

o. Financial guarantee contracts

Policy applicable from 1 January 2018[1]

Financial guarantee contracts are contracts that require the issuer to make specified payments to reimburse the holder for an incurred loss because a specified debtor fails to make payments when due in accordance with the terms of a specified debt instrument. UBS AG issues such financial guarantees to banks, financial institutions and other parties on behalf of clients to secure loans, overdrafts and other banking facilities.

1 The accounting policy in this section applies from 1 January 2018, the effective date of IFRS 9.

Certain issued financial guarantees that are managed on a fair value basis are designated at fair value through profit or loss. Financial guarantees that are not managed on a fair value basis are initially recognized in the financial statements at fair value and are subsequently measured at the higher of:
– the amount of ECL (refer to item 3g in this Note); and
– the amount initially recognized less the cumulative amount of income recognized as of the reporting date.

ECL resulting from guarantees is recorded in the income statement in *Credit loss (expense) / recovery*.

Comparative policy | *Policy applicable prior to 1 January 2018*
Financial guarantees that are not managed on a fair value basis are initially recognized in the financial statements at fair value and are subsequently measured at the higher of the amount initially recognized less cumulative amortization and, to the extent a payment under the guarantee has become probable, the present value of the expected payment. Any change in the liability relating to probable expected payments resulting from guarantees is recorded in the income statement in *Credit loss (expense) / recovery*. ▲

p. Other net income from financial instruments measured at fair value through profit or loss
The line item *Other net income from financial instruments measured at fair value through profit or loss* includes fair value gains and losses on financial instruments at fair value through profit or loss other than interest income and expense on non-derivatives (refer to item 3c in this Note). In addition, effective 1 January 2019, the line item includes dividends (prior to 1 January 2019, dividends were included within *Net interest income*), intermediation income arising from certain client-driven Global Wealth Management and Personal & Corporate Banking financial transactions, foreign currency translation effects and income and expenses from exposures to precious metals.

4) Fee and commission income and expenses

Policy applicable from 1 January 2018[1]
UBS AG earns fee income from a diverse range of services it provides to its clients. Fee income can be divided into two broad categories: fees earned from services that are provided over a certain period of time, such as asset or portfolio management, custody services and certain advisory services; and fees earned from point-in-time services, such as underwriting fees and brokerage fees (e.g., securities and derivative execution and clearing).

→ **Refer to Note 4 for more information, including the disaggregation of revenues**

Performance obligations satisfied over time
Fees earned from services that are provided over a certain period of time are recognized on a pro rata basis over the service period, provided the fees are not contingent on successfully meeting specified performance criteria that are beyond the control of UBS AG (see measurement below).

Costs to fulfill services over time are recorded in the income statement immediately, because such services are considered to be a series of services that are substantially the same from day to day and have the same pattern of transfer. The costs to fulfill neither generate nor enhance the resources of UBS AG that will be used to satisfy future performance obligations and cannot be distinguished between those that relate to satisfied and unsatisfied performance obligations. Therefore, these costs do not qualify to be recognized as an asset. Where costs incurred relate to contracts that include variable consideration that is constrained by factors beyond UBS AG's control (e.g., successful mergers and acquisitions (M&A) activity), or where UBS AG has a history of not recovering such costs on similar transactions, such costs are expensed immediately as incurred.

Performance obligations satisfied at a point in time
Fees earned from providing transaction-type services are recognized when the service has been completed, provided such fees are not subject to refund or another contingency beyond the control of UBS AG.

Incremental costs to fulfill services provided at a point in time are typically incurred and recorded at the same time as the performance obligation is satisfied and revenue is earned, and are therefore not recognized as an asset, e.g., brokerage. Where recovery of costs to fulfill relates to an uncompleted point-in-time service for which the satisfaction of the performance obligation in the contract is dependent upon factors beyond the control of UBS AG, such as underwriting a successful securities issuance, or where UBS AG has a history of not recovering such costs through reimbursement on similar transactions, the costs are expensed immediately as incurred.

[1] The accounting policy in this section applies from 1 January 2018, the effective date of IFRS 15.

Note 1 Summary of significant accounting policies (continued)

Measurement

Fee and commission income is measured based on consideration specified in a legally enforceable contract with a customer, excluding amounts such as taxes collected on behalf of third parties. Consideration can include both fixed and variable amounts. Variable consideration includes refunds, discounts, performance bonuses and other amounts that are contingent on the occurrence or non-occurrence of a future event. Variable consideration that is contingent on an uncertain event can only be recognized to the extent that it is highly probable that a significant reversal in the amount of cumulative revenue for a contract will not occur. This is referred to as the variable consideration constraint. UBS AG does not consider the highly probable criterion to be met where the contingency on which income is dependent is beyond the control of UBS.AG In such circumstances, UBS AG only recognizes revenue when the contingency has been resolved or an uncertain event has occurred. Examples include asset management performance-linked fees, which are only payable if the returns of a fund exceed a benchmark and are only recognized after the performance period has elapsed. Similarly, M&A advisory fees that are dependent on a successful client transaction are not recognized until the transaction on which the fees are dependent has been executed. Asset management fees (excluding performance-based fees) received on a periodic basis, typically quarterly, that are determined based on a fixed percentage of net asset value that has not been established at the reporting date, are estimated and accrued ratably over the period to the next invoice date, except during periods in which market volatility indicates there is a risk of significant reversal. Research revenues earned by the Investment Bank under commission-sharing or research payment account agreements are not recognized until the client has provided a definitive allocation of amounts between research providers, as prior to this UBS AG generally does not have an enforceable right to a specified amount of consideration.

Consideration received is allocated to the separately identifiable performance obligations in a contract. Owing to the nature of UBS AG's business, contracts that include multiple performance obligations are typically those that are considered to include a series of similar performance obligations fulfilled over time with the same pattern of transfer to the client, e.g., asset management. As a consequence, UBS AG is not required to apply significant judgment in allocating the consideration received across the various performance obligations. UBS AG has taken the practical expedient to not disclose information about the allocation of the transaction price to remaining performance obligations in contracts. This is because contracts are typically less than one year in duration. Where contracts have a longer duration, they are either subject to the variable consideration constraint, with fees calculated on future net asset value, which cannot be included within the transaction price for the contract, or result in revenue being recognized ratably using the output method corresponding directly to the value of the services completed to date and to which UBS AG would be entitled to invoice upon termination of the contract, e.g., loan commitments.

Presentation of fee and commission income and expense

Fee and commission income and expense are presented gross on the face of the income statement when UBS AG is considered to be principal in the contractual relationship with its customer and any suppliers used to fulfill such contracts. This occurs where UBS AG has control over such services and its relationship with suppliers prior to provision of the service to the client. UBS AG only considers itself to be an agent in relation to services provided by third parties, e.g., third-party execution costs for exchange-traded derivatives and fees payable to third-party research providers, where the client controls both the choice of supplier and the scope of the services to be provided. Furthermore, in order to be considered an agent UBS AG should generally not take responsibility for the quality of the service, transform or integrate the services into a UBS AG product. In such circumstances, UBS AG is essentially acting as a payment agent for its client. When UBS AG is acting as an agent, any costs incurred are directly offset against the associated income.

Presentation of expenses in the income statement

UBS AG presents expenses primarily in line with their nature in the income statement, differentiating between expenses that are directly attributable to the satisfaction of specific performance obligations associated with the generation of revenues, which are presented within *Total operating income*, and those that are related to personnel, general and administrative expenses, which are presented within *Total operating expenses*.

Contract assets, contract liabilities and capitalized expenses

UBS AG has applied the practical expedient of allowing for costs incurred to obtain a contract to be expensed as incurred where the amortization period for any asset recognized would be less than 12 months.

Where UBS AG provides services to clients, consideration is due immediately upon satisfaction of a point-in-time service or at the end of a prespecified period for a service performed over time; e.g., certain asset management fees are collected monthly or quarterly, through deduction from a client account, deduction from fund assets or through separate invoicing. Where receivables are recorded, they are presented within *Other financial assets measured at amortized cost*.

Contract liabilities relate to prepayments received from customers where UBS AG is yet to satisfy its performance obligation.

Contract assets are recorded when an entity's right to consideration in exchange for services transferred is conditional on something other than the passage of time, e.g., the entity's future performance.

UBS AG has not recognized any material contract assets, contract liabilities or capitalized expenses during the period and has therefore not provided a contract balances reconciliation.

Comparative policy | *Policy applicable prior to 1 January 2018*
Fees earned from services that are provided over a certain period of time are recognized ratably over the service period, with the exception of performance-linked fees or fee components with specific performance criteria. Such fees are recognized when, as of the reporting date, the performance benchmark has been met and when collectibility is reasonably assured.

Fees earned from providing transaction-type services are recognized when the service has been completed and the fee is fixed or determinable, i.e., not subject to refund or adjustment.

Fee income generated from providing a service that does not result in the recognition of a financial instrument is presented within *Net fee and commission income*. Fees generated from the acquisition, issue or disposal of a financial instrument are presented in the income statement in line with the balance sheet classification of that financial instrument. ▲

→ **Refer to Note 4 for more information**

5) Cash and cash equivalents

For the purpose of the statement of cash flows, cash and cash equivalents comprise balances with an original maturity of three months or less, including cash, money market paper and balances at central and other banks.

6) Share-based and other deferred compensation plans

Share-based compensation plans

UBS Group AG is the grantor of and maintains the obligation to settle share-based compensation plans that are awarded to employees of UBS AG. As a consequence, UBS AG classifies the awards of UBS Group AG shares as equity-settled share-based payment transactions. UBS AG recognizes the fair value of awards granted to its employees by reference to the fair value of UBS Group AG's equity instruments on the date of grant, taking into account the terms and conditions inherent in the award, including, where relevant, dividend rights, transfer restrictions in effect beyond the vesting date, market conditions, and non-vesting conditions. These awards are generally subject to vesting conditions that require employees to complete a specified period of service and, for performance shares, to satisfy specified performance conditions. Share-based compensation expense is recognized, on a per-tranche basis, over the service period based on an estimate of the number of instruments expected to vest and is adjusted to reflect actual outcomes of service or performance conditions. Where the vesting period is shortened, for example in the case of employees affected by restructuring programs or mutually agreed termination provisions, the expense is recognized on an accelerated basis to the termination date.

Where no future service is required, such as for employees who are eligible for retirement or who have met certain age and length-of-service criteria, the services are presumed to have been received and the share-based compensation expense is recognized immediately on, or prior to, the date of grant. Such awards may remain forfeitable. For equity-settled awards, forfeiture events resulting from a breach of a non-vesting condition (i.e., one that does not relate to a service or performance condition) do not result in an adjustment to the share-based compensation expense.

The fair value is not remeasured unless the terms of the award are modified such that there is an incremental increase in value. No adjustments are made for modifications that result in a decrease in value. The equity effects in UBS AG that arise from recognizing UBS Group AG share-based compensation plans are offset through a recharge from UBS Group AG to UBS AG and its subsidiaries.

→ **Refer to Note 30 for more information**

Other compensation plans

The employees of UBS AG are granted deferred compensation plans that are settled in cash or other financial instruments, the amount of which may be fixed or may vary based on the achievement of specified performance conditions or the value of specified underlying assets. Compensation expense is recognized over the period that the employee provides services to become entitled to the award. Where the service period is shortened, for example in the case of employees affected by restructuring programs or mutually agreed termination provisions, recognition of expense is accelerated to the termination date. Where no future service is required, such as for employees who are eligible for retirement or who have met certain age and length-of-service criteria, the services are presumed to have been received and compensation expense is recognized immediately on, or prior to, the date of grant. The amount recognized is based on the present value of the amount expected to be paid under the plan and is remeasured at each reporting date, so that the cumulative expense recognized equals the cash or the fair value of respective financial instruments distributed.

→ **Refer to Note 30 for more information**

7) Pension and other post-employment benefit plans

UBS AG sponsors various post-employment benefit plans for its employees worldwide, which include defined benefit and defined contribution pension plans, and other post-employment benefits, such as medical and life insurance benefits that are payable after the completion of employment.

→ **Refer to Note 29 for more information**

Note 1 Summary of significant accounting policies (continued)

Defined benefit plans

UBS AG offers defined benefit plans, such as pension and medical insurance benefit plans. Defined benefit plans specify an amount of benefit that an employee will receive, which usually depends on one or more factors, such as age, years of service and compensation. The defined benefit liability recognized in the balance sheet is the present value of the defined benefit obligation less the fair value of the plan assets at the balance sheet date, with changes resulting from remeasurements recorded immediately in *Other comprehensive income*. If the fair value of the plan assets is higher than the present value of the defined benefit obligation, the recognition of the resulting net defined benefit asset is limited to the present value of economic benefits available in the form of refunds from the plan or reductions in future contributions to the plan. UBS AG applies the projected unit credit method to determine the present value of its defined benefit obligations, the related current service cost and, where applicable, past service cost. The projected unit credit method sees each period of service as giving rise to an additional unit of benefit entitlement and measures each unit separately to build up the final obligation. These amounts, which take into account the specific features of each plan, including risk sharing between employee and employer, are calculated periodically by independent qualified actuaries.

Critical accounting estimates and judgments

The net defined benefit liability or asset at the balance sheet date and the related personnel expense depend on the expected future benefits to be provided, determined using a number of economic and demographic assumptions. A range of assumptions could be applied, and different assumptions could significantly alter the defined benefit liability or asset and pension expense recognized. The most significant assumptions include life expectancy, the discount rate, expected salary increases, pension increases and, in addition for the Swiss plan and one of the US defined benefit pension plans, interest credits on retirement savings account balances. Life expectancy is determined by reference to published mortality tables. The discount rate is determined by reference to the rates of return on high-quality fixed-income investments of appropriate currency and term at the measurement date. The assumption for salary increases reflects the long-term expectations for salary growth and takes into account historical salary development by age groups, expected inflation and expected supply and demand in the labor market. A sensitivity analysis for reasonable possible movements in each significant assumption for UBS AG's post-employment obligations is provided within Note 29.

Defined contribution plans

A defined contribution plan is a pension plan under which UBS AG pays fixed contributions into a separate entity from which post-employment and other benefits are paid. UBS AG has no legal or constructive obligation to pay further contributions if the plan does not hold sufficient assets to pay employees the benefits relating to employee service in the current and prior periods. UBS AG's contributions are expensed when the employees have rendered services in exchange for such contributions. This is generally in the year of contribution. Prepaid contributions are recognized as an asset to the extent that a cash refund or a reduction in future payments is available.

8) Income taxes

UBS AG is subject to the income tax laws of Switzerland and those of the non-Swiss jurisdictions in which UBS AG has business operations.

UBS AG's provision for income taxes is composed of current and deferred taxes. Current income taxes represent taxes to be paid or refunded for the current period or previous periods.

Deferred taxes are recognized for temporary differences between the carrying amounts and tax bases of assets and liabilities that will result in taxable or deductible amounts in future periods and are measured using the applicable tax rates and laws that have been enacted or substantively enacted by the end of the reporting period and which will be in effect when such differences are expected to reverse.

Deferred tax assets arise from a variety of sources, the most significant being: (i) tax losses that can be carried forward to be used against profits in future years; and (ii) temporary differences that will result in deductions against profits in future years. Deferred tax assets are recognized only to the extent that it is probable that sufficient taxable profits will be available against which these differences can be used. When an entity or tax group has a history of recent losses, deferred tax assets are only recognized to the extent there are sufficient taxable temporary differences or there is convincing other evidence that sufficient taxable profit will be available against which the unused tax losses can be utilized.

Deferred tax liabilities are recognized for temporary differences between the carrying amounts of assets and liabilities in the balance sheet that reflect the expectation that certain items will give rise to taxable income in future periods.

Deferred and current tax assets and liabilities are offset when: (i) they arise in the same tax reporting group; (ii) they relate to the same tax authority; (iii) the legal right to offset exists; and (iv) they are intended to be settled net or realized simultaneously.

Current and deferred taxes are recognized as income tax benefit or expense in the income statement, except for current and deferred taxes recognized: (i) upon the acquisition of a subsidiary (for which such amounts would affect the amount of goodwill arising from the acquisition); (ii) for gains and losses on the sale of treasury shares (for which the tax effects are recognized directly in *Equity*); (iii) for unrealized gains or losses on financial instruments that are classified at FVOCI (prior to 1 January 2018: financial assets classified as available for sale); (iv) for changes in fair value of derivative instruments designated as cash flow hedges; (v) for remeasurements of defined benefit plans; or (vi) for certain foreign currency translations of foreign operations. Amounts relating to points (iii) through (vi) are recognized in *Other comprehensive income* within *Equity*.

UBS AG reflects the potential effect of uncertain tax positions for which acceptance by the relevant tax authority is not considered probable by adjusting current or deferred taxes, as applicable, using either the most likely amount or expected value methods, depending on which method is deemed a better predictor of the basis on which and extent to which the uncertainty will be resolved.

Critical accounting estimates and judgments

Tax laws are complex, and judgment and interpretations about the application of such laws are required when accounting for income taxes. UBS AG considers the performance of its businesses and the accuracy of historical forecasts and other factors in evaluating the recoverability of its deferred tax assets, including the remaining tax loss carry-forward period, and its assessment of expected future taxable profits in the forecast period used for recognizing deferred tax assets. Estimating future profitability is inherently subjective and is particularly sensitive to future economic, market and other conditions, which are difficult to predict.

The level of deferred tax asset recognition is influenced by management's assessment of UBS AG's future profitability based on relevant business plan forecasts. Existing assessments are reviewed and, if necessary, revised to reflect changed circumstances. This review is conducted annually, generally in the fourth quarter of each year, but adjustments may be made at other times, if required. In a situation where recent losses have been incurred, convincing other evidence that there will be sufficient future profitability is required.

If profit forecast assumptions in future periods deviate from the current outlook, the value of UBS AG's deferred tax assets may be affected. Any increase or decrease in the carrying amount of deferred tax assets would primarily be recognized through the income statement but would not affect cash flows.

In addition, judgment is required to assess the expected value of uncertain tax positions that are incorporated into the estimate of income and deferred tax and the assessment of the related probabilities, including in relation to the interpretation of tax laws, the resolution of any income tax-related appeals or litigation and the assessment of the related probabilities.

→ **Refer to Note 8 for more information**

9) Investments in associates

Interests in entities where UBS AG has significant influence over the financial and operating policies of the entity, but does not have control, are classified as investments in associates and accounted for under the equity method of accounting. Typically, UBS AG has significant influence when it holds or has the ability to hold between 20% and 50% of a company's voting rights. Investments in associates are initially recognized at cost, and the carrying amount is increased or decreased after the date of acquisition to recognize UBS AG's share of the investee's comprehensive income and any impairment losses.

The net investment in an associate is impaired if there is objective evidence of a loss event and the carrying amount of the investment in the associate exceeds its recoverable amount.

→ **Refer to Note 31 for more information**

10) Property, equipment and software

Property, equipment and software includes own-used properties, leasehold improvements, information technology hardware, externally purchased and internally generated software, as well as communication and other similar equipment. Property, equipment and software is measured at cost less accumulated depreciation and impairment losses and is reviewed at each reporting date for indication for impairment. Software development costs are capitalized only when the costs can be measured reliably and it is probable that future economic benefits will arise. Depreciation of property, equipment and software begins when they are available for use (i.e., when they are in the location and condition necessary for them to be capable of operating in the manner intended by management). Depreciation is calculated on a straight-line basis over an asset's estimated useful life. The estimated useful economic lives of UBS AG's property, equipment and software are:

- properties, excluding land: ≤ 67 years
- IT hardware and communication equipment: ≤ 7 years
- other machines and equipment: ≤ 10 years
- software: ≤ 10 years
- leased properties and leasehold improvements: the shorter of the lease term or the economic life of asset (typically ≤ 20 years).

Note 1 Summary of significant accounting policies (continued)

Property, equipment and software are generally tested for impairment at the appropriate cash-generating unit (CGU) level, alongside goodwill and intangible assets as described in item 11 of this Note. An impairment charge is however only recognized for such assets if both the asset's fair value less costs of disposal and value in use (if determinable) is below its carrying amount. The fair value of such an asset, other than property which has a market price, is generally determined using a replacement cost approach that reflects the amount that would be currently required by a market participant to replace the service capacity of the asset. If such assets are no longer used, they are tested individually for impairment.

→ **Refer to Note 15 for more information**

11) Goodwill and intangible assets

Goodwill represents the excess of the cost of an acquisition over the fair value of UBS AG's share of net identifiable assets of the acquired entity at the date of the acquisition. Goodwill is not amortized, but at the end of each reporting period or when indicators of impairment exist, UBS AG assesses whether there is any indication that goodwill is impaired. If such indicators exist, UBS AG is required to test the goodwill for impairment. Irrespective of whether there is any indication of impairment, UBS AG tests goodwill for impairment annually.

Following the integration in 2018 of the Wealth Management and Wealth Management Americas business divisions into the single reportable segment Global Wealth Management, UBS AG continued to separately monitor the goodwill previously allocated to the two former business divisions. As a consequence, for the purpose of goodwill impairment testing, the former Wealth Management and Wealth Management Americas business divisions are considered to be two separate cash-generating units referred to in Note 16 as Global Wealth Management Americas and Global Wealth Management ex Americas. The remaining goodwill balances are tested at the level of Asset Management and the Investment Bank, with each segment considered a separate cash-generating unit.

The impairment test is performed for each cash-generating unit to which goodwill is allocated by comparing the recoverable amount, based on its value-in-use, to the carrying amount of the respective cash-generating unit. An impairment charge is recognized in the income statement if the carrying amount exceeds the recoverable amount.

If the estimated earnings and other assumptions in future periods deviate from the current outlook, the value of UBS AG's goodwill may become impaired in the future, giving rise to losses in the income statement. Recognition of any impairment of goodwill would reduce net profit and equity, but would not affect cash flows.

Intangible assets are comprised of separately identifiable intangible items arising from business combinations and certain purchased trademarks and similar items. Intangible assets are recognized at cost. The cost of an intangible asset acquired in a business combination is its fair value at the date of acquisition. Intangible assets with a finite useful life are amortized using the straight-line method over their estimated useful life, generally not exceeding 20 years. In rare cases, intangible assets can have an indefinite useful life, in which case they are not amortized. At each reporting date, intangible assets are reviewed for indications of impairment. If such indications exist, the intangible assets are analyzed to assess whether their carrying amount is fully recoverable. An impairment loss is recognized if the carrying amount exceeds the recoverable amount.

Critical accounting estimates and judgments

UBS AG's methodology for goodwill impairment testing is based on a model that is most sensitive to the following key assumptions: (i) forecasts of earnings available to shareholders in years one to three; (ii) changes in the discount rates; and (iii) changes in the long-term growth rate.

The key assumptions are linked to external market information, where applicable. Earnings available to shareholders are estimated on the basis of forecast results, which are part of the business plan approved by the BoD. The discount rates are determined by applying a capital asset pricing model-based approach, as well as considering quantitative and qualitative inputs from both internal and external analysts, the view of management and regional differences in risk-free rates, at the level of individual cash-generating units. Long-term growth rates are determined in a consistent manner based on nominal or real GDP growth rate forecasts, considering different regions worldwide as incorporated in the business plan approved by the BoD.

The key assumptions used to determine the recoverable amounts of each cash-generating unit are tested for sensitivity by applying reasonably possible changes to those assumptions. Refer to Note 16 for details about how the reasonably possible changes may affect the results of UBS AG's model for goodwill impairment testing.

→ **Refer to Notes 2 and 16 for more information**

12) Provisions and contingent liabilities

Provisions are liabilities of uncertain timing or amount, and are generally recognized in accordance with IAS 37, *Provisions, Contingent Liabilities and Contingent Assets*, when: (i) UBS AG has a present obligation as a result of a past event; (ii) it is probable that an outflow of resources will be required to settle the obligation; and (iii) a reliable estimate of the amount of the obligation can be made.

UBS AG recognizes IAS 37 provisions for litigation, regulatory and similar matters when, in the opinion of management after seeking legal advice, the requirements for recognition have been met. A provision may also be established for claims that have not yet been asserted against UBS AG, but are nevertheless expected to be, based on UBS AG experience with similar asserted claims.

IAS 37 provisions are measured considering the best estimate of the consideration required to settle the present obligation at the balance sheet date. Such estimates are based on all available information and are revised over time as more information becomes available. If the effect of the time value of money is material, provisions are discounted and measured at the present value of the expenditure expected to settle or discharge the obligation, using a rate that reflects the current market assessments of the time value of money and the risks specific to the obligation.

Provisions that are similar in nature are aggregated to form a class, while the remaining provisions, including those of less significant amounts, are disclosed under *Other provisions*. Provisions are presented separately on the balance sheet and, when they are no longer considered uncertain in timing or amount, are reclassified to their respective liability lines depending on their nature.

When all conditions required to recognize a provision are not met, a contingent liability is disclosed, unless the likelihood of an outflow of resources is remote. Contingent liabilities are also disclosed for possible obligations that arise from past events whose existence will be confirmed only by uncertain future events not wholly within the control of UBS AG. Such disclosures are not made if it is not practicable to do so.

The majority of UBS AG's provisions relate to litigation, regulatory and similar matters, restructuring, and employee benefits. Restructuring provisions are generally recognized as a consequence of management agreeing to materially change the scope of the business or the manner in which it is conducted, including changes in the management structure. Provisions for employee benefits relate mainly to service anniversaries and sabbatical leave, and are recognized in accordance with measurement principles set out in item 7 of this Note. In addition, UBS AG presents expected credit loss allowances within *Provisions* if they relate to a loan commitment, financial guarantee contract or a revolving revocable credit line.

Critical accounting estimates and judgments

Recognition of provisions often involves significant judgment in assessing the existence of an obligation that results from past events and in estimating the probability, timing and amount of any outflows of resources. This is particularly the case for litigation, regulatory and similar matters, which, due to their nature, are subject to many uncertainties making their outcome difficult to predict. Such matters may involve unique fact patterns or novel legal theories, proceedings that have not yet been initiated or are at early stages of adjudication, or as to which alleged damages have not been quantified by the claimants. Determining whether an obligation exists as a result of a past event and estimating the probability, timing and amount of any potential outflows is based on a variety of assumptions, variables, and known and unknown uncertainties.

The amount of any provision recognized is sensitive to the assumptions used and there could be a wide range of possible outcomes for any particular matter.

Statistical or other quantitative analytical tools are generally of limited use in determining whether to establish or determine the amount of provisions in the case of litigation, regulatory or similar matters. Furthermore, information currently available to management may be incomplete or inaccurate, increasing the risk of erroneous assumptions with regard to the future development of such matters. Management regularly reviews all the available information regarding such matters, including legal advice, which is a significant consideration, to assess whether the recognition criteria for provisions have been satisfied and to determine the timing and amount of any potential outflows.

→ **Refer to Note 21 for more information**

13) Foreign currency translation

Transactions denominated in a foreign currency are translated into the functional currency of the reporting entity at the spot exchange rate on the date of the transaction. At the balance sheet date, all monetary assets, including those at FVOCI (prior to 1 January 2018: monetary financial assets classified as available for sale), and monetary liabilities denominated in foreign currency are translated into the functional currency using the closing exchange rate. Translation differences (which for monetary financial assets at FVOCI are determined as if they were financial assets measured at amortized cost) are reported in *Other net income from financial instruments measured at fair value through profit or loss* (prior to 1 January 2018: *Net trading income*).

Non-monetary items measured at historical cost are translated at the exchange rate on the date of the transaction. Prior to 1 January 2018, foreign currency translation differences on non-monetary financial assets classified as available for sale were recorded directly in *Equity* until the asset was derecognized.

Note 1 Summary of significant accounting policies (continued)

Upon consolidation, assets and liabilities of foreign operations (which from 1 October 2018 also include UBS AG's Switzerland-based operations with Swiss franc functional currency) are translated into US dollars, UBS AG's presentation currency, at the closing exchange rate on the balance sheet date, and income and expense items and other comprehensive income are translated at the average rate for the period. The resulting foreign currency translation differences attributable to shareholders are recognized in *Foreign currency translation* within *Equity,* which forms part of *Total equity attributable to shareholders*, whereas the foreign currency translation differences attributable to non-controlling interests are included within *Equity attributable to non-controlling interests*. Share capital issued, share premium and treasury shares held are translated at the historic average rate, whereby the difference between the historic average rate and the spot rate realized upon repayment of share capital or disposal of treasury shares is reported as *Share premium.* Cumulative amounts recognized in OCI in respect of cash flow hedges and financial assets measured at FVOCI (prior to 1 January 2018: financial assets classified as available for sale) are translated at the closing exchange rate as of the balance sheet dates, with any translation effects adjusted through *Retained earnings*.

When a foreign operation is disposed or partially disposed of and UBS AG no longer controls the foreign operation, the cumulative amount of foreign currency translation differences within *Total equity attributable to shareholders* and *Equity attributable to non-controlling interests* related to that foreign operation is reclassified to the income statement as part of the gain or loss on disposal. Similarly, if an investment in an associate becomes an investment in a subsidiary, the cumulative amount of foreign currency translation differences is reclassified to profit or loss. When UBS AG disposes of a portion of its interest in a subsidiary that includes a foreign operation but retains control, the related portion of the cumulative currency translation balance is reclassified to *Equity attributable to non-controlling interests.*

→ **Refer to Note 37 for more information**

Critical accounting estimates and judgments

The determination of an entity's functional currency and the trigger for a change requires management to apply significant judgment and assumptions. IAS 21, *The Effects of Changes in Foreign Exchange Rates*, requires management to consider the underlying transactions, events and conditions that are relevant to the entity when determining the appropriate functional currency and any changes. UBS AG's conclusion, in the fourth quarter of 2018, that the functional currency of UBS AG's Head Office in Switzerland and UBS AG London Branch had changed from the Swiss franc to the US dollar was based on a detailed assessment of the primary currencies affecting and influencing the economics of each entity, considering revenue-generating income streams, expenses, funding and risk management activities.

In addition, determining the earliest date from which it is practicable to perform a restatement following a voluntary change in presentational currency also requires management to apply significant judgment and make estimates and assumptions. UBS AG's decision in 2018 to change the presentation currency of its consolidated financial statements from the Swiss franc to the US dollar was made in line with IAS 8, *Accounting Policies, Changes in Accounting Estimates and Errors*, by assessing the earliest date from which it was practicable to perform a restatement, taking into consideration whether sufficiently reliable data was available for earlier periods and whether any assumptions on management intent or significant estimates of amounts were required. UBS AG carried out a detailed and extensive data analysis before concluding that 1 January 2004 represented the earliest date available, with the consequence that foreign currency translation gains and losses prior to 2004 were disregarded, and foreign currency translation effects were first calculated from 1 January 2004 onward.

14) Non-controlling interests and preferred noteholders

Non-controlling interests and preferred noteholders

Net profit is split into *Net profit attributable to shareholders, Net profit attributable to non-controlling interest and Net profit attributable to preferred noteholders.* Similarly, *Equity* is split into *Equity attributable to shareholders, Equity attributable to non-controlling interests and Equity attributable to preferred noteholders.*

Non-controlling interests subject to option arrangements, e.g., written puts, are generally deemed to be acquired by UBS AG. As a result, the amounts allocated to non-controlling interests are reduced accordingly and a liability equivalent to each option's exercise price is recognized, with any difference between these two amounts recorded in *Share premium.*

15) Leasing

Policy applicable from 1 January 2019[1]
UBS AG predominantly enters into lease contracts, or contracts that include lease components, as a lessee of real estate, including offices, retail branches and sales offices, with a small number of IT hardware leases. UBS AG identifies non-lease components of a contract and accounts for them separately from lease components.

When UBS AG is a lessee in a lease arrangement, UBS AG recognizes a lease liability and corresponding right-of-use (RoU) asset at the commencement of the lease term when UBS AG acquires control of the physical use of the asset. Lease liabilities are presented within *Other financial liabilities measured at amortized cost* and RoU assets within *Property, equipment and software*. The lease liability is measured based on the present value of the lease payments over the lease term, discounted using UBS AG's unsecured borrowing rate, given that the rate implicit in a lease is generally not observable to the lessee. Interest expense on the lease liability is presented within *Interest expense from financial instruments measured at amortized cost*. The RoU asset is recorded at an amount equal to the lease liability but is adjusted for rent prepayments, initial direct costs, any costs to refurbish the leased asset and/or lease incentives received. The RoU asset is depreciated over the shorter of the lease term or the useful life of the underlying asset, with the depreciation presented within *Depreciation and impairment of property, equipment and software*.

Lease payments generally include fixed payments and variable payments that depend on an index (such as an inflation index). When a lease contains an extension or termination option that UBS AG considers reasonably certain to be exercised, the expected rental payments or costs of termination are included within the lease payments used to generate the lease liability. UBS AG does not typically enter into leases with purchase options or residual value guarantees.

Where UBS AG acts as a lessor or sub-lessor under a finance lease, a receivable is recognized in *Other financial assets measured at amortized cost* at an amount equal to the present value of the aggregate of the lease payments plus any unguaranteed residual value that UBS AG expects to recover at the end of the lease term. Initial direct costs are also included in the initial measurement of the lease receivable. Lease payments received during the lease term are allocated as repayments of the outstanding receivable. Interest income reflects a constant periodic rate of return on UBS AG's net investment using the interest rate implicit in the lease (or, for sub-leases, the rate for the head lease). UBS AG reviews the estimated unguaranteed residual value annually, and if the estimated residual value to be realized is less than the amount assumed at lease inception, a loss is recognized for the expected shortfall. Where UBS AG acts as a lessor or sub-lessor in an operating lease, UBS AG recognizes the operating lease income on a straight-line basis over the lease term.

Lease receivables are subject to impairment requirements as set out in item 3g of this Note. Expected credit losses (ECL) on lease receivables are determined following the general impairment model within IFRS 9, *Financial Instruments*, without utilizing the simplified approach of always measuring impairment at the amount of lifetime ECL.

Comparative policy | *Policy applicable prior to 1 January 2019*
Leases that transfer substantially all the risks and rewards, but not necessarily legal title in the underlying assets, are classified as finance leases. All other leases are classified as operating leases. Lease contracts classified as operating leases where UBS AG is the lessee include non-cancelable long-term leases of office buildings in most UBS AG locations. Operating lease rentals payable are recognized as an expense on a straight-line basis over the lease term, which commences with control of the physical use of the property. Lease incentives are treated as a reduction of rental expense and are recognized on a consistent basis over the lease term.

→ **Refer to Note 15 and 33 for more information**

1 The accounting policy in this section applies from 1 January 2019, the effective date of IFRS 16.

Note 1 Summary of significant accounting policies (continued)

b) Changes in accounting policies, comparability and other adjustments

New or amended accounting standards

Amendments to IAS 39, IFRS 9 and IFRS 7 (Interest Rate Benchmark Reform)

In September 2019, the IASB issued *Interest Rate Benchmark Reform – Amendments to IFRS 9, IAS 39 and IFRS 7*, enabling hedge accounting to continue during the period of uncertainty before existing interest rate benchmarks are replaced with alternative risk-free interest rates. The amendments are mandatorily effective from 1 January 2020, with early adoption permitted, and apply to hedge relationships that exist at the beginning of the reporting period or are designated thereafter, and to the gains or losses that exist in OCI on adoption. As permitted by the transitional provisions, UBS AG early adopted the revisions in 2019. Adopting these amendments allows UBS AG to maintain its existing hedge accounting relationships and to assume that the current benchmark rates will continue to exist, such that the hedge relationships are considered highly effective on a retrospective and prospective basis, with no consequential impact on the financial statements. Further, the amendments bring in additional disclosure requirements on the effects arising from the change in interest rate benchmarks, which are presented in Note 28.

IFRS 16, Leases

Effective from 1 January 2019, UBS AG adopted IFRS 16, *Leases*, which replaced IAS 17, *Leases*, and sets out the principles for the recognition, measurement, presentation and disclosure of leases.

IFRS 16 introduces a single lessee accounting model and fundamentally changes how UBS AG accounts for operating leases when acting as a lessee, with a requirement to record a right-of-use (RoU) asset and lease liability on the balance sheet. UBS AG is a lessee in a number of leases, primarily of real estate, including offices, retail branches and sales offices, with a smaller number of IT hardware leases. As permitted by the transitional provisions of IFRS 16, UBS AG elected to apply the modified retrospective approach and has not restated comparative figures. Overall, adoption of IFRS 16 resulted in a USD 3.4 billion increase in both total assets and total liabilities in UBS AG's consolidated financial statements.

The newly recognized right-of-use assets and finance lease receivables were fully allocated to the business divisions. There was no effect on equity.

→ **Refer to the tables below and on the following page, and Note 2 for more information**

UBS AG applied the following practical expedients that are permitted on transition to IFRS 16 where UBS AG is a lessee in a lease previously classified as an operating lease:
- to not reassess whether or not a contract contained a lease;
- to rely on previous assessments of whether such contracts were considered onerous;
- to rely on previous sale-and-leaseback assessments;
- to adjust lease terms with the benefit of hindsight with respect to whether extension or termination options are reasonably certain of being exercised;
- to discount lease liabilities using the UBS AG's incremental borrowing rate in each currency as of 1 January 2019;
- to initially measure the RoU asset at an amount equal to the lease liability for leases previously classified as operating leases, adjusted for existing lease balances, such as rent prepayments, rent accruals, lease incentives and onerous lease provisions, but excluding initial direct costs; and
- to not apply IFRS 16 to leases the remaining term of which will end within 12 months from the transition date.

The measurement of leases previously classified as finance leases where UBS AG acts as a lessee has not changed on transition to IFRS 16. Similarly, UBS AG has made no adjustments where UBS AG acts as a lessor, in either a finance or operating lease, of physical assets it owns. Where UBS AG acts as an intermediate lessor, i.e., where UBS AG enters into a head lease and sub-leases the asset to a third party, the sub-lease has been classified as either a finance or operating lease based primarily on whether the sub-lease term consumes the majority of the remaining useful life of the RoU asset arising from the head lease as of the transition date.

The following table reconciles the obligations in respect of operating leases as of 31 December 2018 to the opening lease liabilities recognized on 1 January 2019.

Reconciliation between operating lease commitments disclosed under IAS 17 and lease liabilities recognized under IFRS 16

USD million	
Total undiscounted operating lease commitments as of 31 December 2018	4,546
Leases with a remaining term of less than one year as of 1 January 2019	(18)
Excluded service components	(296)
Reassessment of lease term for extension or termination options	424
Total undiscounted lease payments	4,657
Discounted at a weighted average incremental borrowing rate of 3.07%	(720)
IFRS 16 transition adjustment	3,937
Finance lease liabilities as of 31 December 2018	19
Carrying amount of total lease liabilities as of 1 January 2019	3,956

The following table provides details about the determination of RoU assets on transition.

Determination of RoU assets on transition

USD million	Carrying amount
Recognition of gross RoU assets upon adoption of IFRS 16 (IFRS 16 transition adjustment)	3,937
Offset by liabilities recognized as of 31 December 2018	(515)
of which: other non-financial liabilities (lease incentives)	*(204)*
of which: other financial liabilities measured at amortized cost (rent accruals)	*(180)*
of which: provisions (onerous lease provisions)	*(131)*
Increase in total assets resulting from the adoption of IFRS 16 on 1 January 2019[1]	3,422
Reclassification of assets recognized as of 31 December 2018 as an addition to RoU assets	38
of which: other financial assets measured at amortized cost (finance lease assets recognized under IAS 17 as of 31 December 2018)	*19*
of which: other non-financial assets (prepaid rent)	*19*
Reclassification of finance lease receivables from sub-leases to other financial assets measured at amortized cost resulting in a reduction of RoU assets	(176)
Total RoU assets as of 1 January 2019 presented within Property, equipment and software	3,284

1 Total liabilities increased by the same amount upon adoption of IFRS 16.

Lease liabilities are presented within *Other financial liabilities measured at amortized cost* and RoU assets within *Property, equipment and software*. Finance lease receivables are included within *Other financial assets measured at amortized cost*. Due to the practical expedients taken on transition, there was no effect on equity. The weighted average lease term on 1 January 2019 was approximately nine years.

The 2019 depreciation expense for RoU assets, which is presented within *Depreciation and impairment of property, equipment and software*, was USD 463 million. The 2019 interest expense on lease liabilities, which is presented within *Interest expense from financial instruments measured at amortized cost*, was USD 118 million. Occupancy expenses, which are presented within *General and administrative expenses*, decreased by USD 510 million between 2018 and 2019, which primarily reflected the adoption of IFRS 16. The full year effect of the application of IFRS 16 was a net decrease in profit before tax of approximately USD 60 million.

IFRIC 23, Uncertainty over Income Tax Treatments

Effective from 1 January 2019, UBS AG adopted IFRIC Interpretation 23, *Uncertainty over Income Tax Treatments* (IFRIC 23), which addresses how uncertain tax positions should be accounted for under IFRS. IFRIC 23 requires that, where acceptance of the tax treatment by the relevant tax authority is considered probable, it should be assumed as an accounting recognition matter that treatment of the item will ultimately be accepted. Therefore no tax provision would be required in such cases. However, if acceptance of the tax treatment is not considered probable, the entity is required to reflect that uncertainty using an expected value (i.e., a probability-weighted approach) or the single most likely amount.

Upon adoption of IFRIC 23 on 1 January 2019, UBS AG recognized a net tax expense of USD 11 million in retained earnings.

Amendments to IAS 19, Employee Benefits

Effective from 1 January 2019, UBS AG adopted amendments to IAS 19, *Employee Benefits*, which address the accounting when a plan amendment, curtailment or settlement occurs during the reporting period. The amendments require entities to use the updated actuarial assumption to determine current service cost and net interest for the remainder of the annual reporting period after such an event. The amendments also clarify how the accounting requirements for a plan amendment, curtailment or settlement affect the asset ceiling requirements. The amendments are effective prospectively for plan amendments, curtailments or settlements that occur on or after 1 January 2019. Adoption on 1 January 2019 had no effect on UBS AG's financial statements.

Annual Improvements to IFRS Standards 2015–2017 Cycle

Effective from 1 January 2019, UBS AG adopted Annual Improvements to IFRS Standards 2015–2017 Cycle, which resulted in amendments to IFRS 3, *Business Combinations*, IFRS 11, *Joint Arrangements*, IAS 12, *Income Taxes*, and IAS 23, *Borrowing Costs*. Adoption of these amendments on 1 January 2019 had no material effect on UBS AG's financial statements.

Note 1 Summary of significant accounting policies (continued)

Other changes to presentation or segment reporting

Presentation of dividend income and expense from financial instruments measured at fair value through profit or loss

Effective from 1 January 2019, UBS AG refined the presentation of dividend income and expense. This resulted in a reclassification of dividends from *Interest income (expense) from financial instruments measured at fair value through profit or loss* into *Other net income from financial instruments measured at fair value through profit or loss* (prior to 1 January 2019: *Other net income from fair value changes on financial instruments*). The change aligns the presentation of dividends with related fair value changes from equity instruments and economic hedges, removing volatility that has historically arisen within both *Net interest income* and *Other net income from financial instruments measured at fair value through profit or loss*. There is no effect on *Total operating income* or *Net profit / (loss)*. Prior periods have been restated for this presentational change and the effect on the respective reporting lines is outlined in the table below.

Changes to the presentation of dividend income and expense from financial instruments measured at fair value through profit or loss

	For the year ended	
USD million	31.12.18	31.12.17
Interest income from financial instruments measured at fair value through profit or loss	(2,308)	(1,762)
Interest expense from financial instruments measured at fair value through profit or loss	1,331	1,190
Net interest income	(976)	(572)
Other net income from financial instruments measured at fair value through profit or loss	976	572

Changes to Corporate Center

As of 1 January 2019, UBS AG has operationally combined Group Treasury activities with Group ALM and calls this combined unit Group Treasury.

In order to further align Group and divisional performance, UBS AG adjusted the methodology for the allocation of Group Treasury and Corporate Center – Services funding costs and expenses to the business divisions. At the same time, UBS AG updated its funds transfer pricing framework to better reflect the sources and usage of funding. All of these changes became effective as of 1 January 2019 and prior-period segment information has been restated. Together, these changes decreased the operating results of the business divisions and thereby increased their adjusted cost / income ratios 1–2 percentage points, with an offsetting effect of USD 0.7 billion in Corporate Center's operating profit / (loss) before tax. Corporate Center has retained funding costs for deferred tax assets, costs relating to UBS AG's legal entity transformation program and other costs not attributable to, or representative of the performance of, the business divisions.

Alongside the update to allocations and UBS AG's funds transfer pricing framework, UBS AG has increased the allocation of balance sheet resources from Corporate Center to the business divisions, resulting in USD 223 billion of assets allocated from Corporate Center to the business divisions in restated 2018 numbers, predominantly from high-quality liquid assets and certain other assets centrally managed on behalf of the business divisions.

Further, due to the aforementioned changes to UBS's methodology for allocating funding costs and expenses and a substantial reduction in the size and resource consumption of the various Corporate Center units, UBS AG provides results for total Corporate Center only and does not separately report Corporate Center – Services, Group Treasury and Non-core and Legacy Portfolio, in compliance with IFRS 8, *Operating Segments*. Prior-period information has been restated.

→ **Refer to Note 2 for more information**

c) International Financial Reporting Standards and Interpretations to be adopted in 2020 and later and other changes

Adoption of hedge accounting requirements of IFRS 9, *Financial Instruments*

Effective 1 January 2020, UBS AG will adopt the hedge accounting requirements of IFRS 9, *Financial Instruments* for most of its existing hedge accounting programs, including fair value hedges of interest rate risk related to debt instruments, cash flow hedges of forecast transactions and hedges of net investments in foreign operations. As permitted by IFRS 9, UBS AG will continue to account for its fair value hedges of portfolio interest rate risk related to loans under IAS 39, *Financial Instruments: Recognition and Measurement*.

IFRS 9's hedge accounting model further aligns accounting with risk management practices, amends hedge effectiveness requirements and prohibits voluntary de-designations. IFRS 9 permits certain additional hedged items, including layer components, net positions, or aggregated exposures, such as a combination of a non-derivative and derivative, to be designated. IFRS 9 also introduces the concept of "cost of hedging," under which the time value of options, the forward element of a forward contract or foreign currency basis spreads in a cross-currency swap can be deferred in other comprehensive income and, depending on the nature of the hedged transaction, released to the income statement either when the hedged item impacts the income statement or over the term of the hedged item.

The adoption of these requirements will have no consequential financial impact on UBS AG's financial statements. However, the adoption will allow UBS AG to designate more effective hedge accounting relationships going forward, including fair value hedges of foreign currency risk using cross-currency swaps, and reduce income statement volatility caused by foreign currency basis spreads.

Conceptual Framework

In March 2018, the IASB issued a revised version of its Conceptual Framework for Financial Reporting (the Framework). The Framework sets out the fundamental concepts of financial reporting and will be used by the IASB in developing IFRS standards. Preparers use the Framework as a point of reference to develop accounting policies in rare instances where a particular business transaction is not covered by existing IFRS standards.

The adoption of the Framework by UBS AG on 1 January 2020 will have no effect on its financial statements.

Amendments to IFRS 3, *Business Combinations*

In October 2018, the IASB issued *Definition of a Business (Amendments to IFRS 3)*. The amendments clarify the definition of a business, with the objective of assisting in the determination of whether a transaction should be accounted for as a business combination or an asset acquisition. The amendments apply to transactions with an acquisition date on or after 1 January 2020. The adoption of these amendments on 1 January 2020 will have no effect on its financial statements.

IFRS 17, *Insurance Contracts*

In May 2017, the IASB issued IFRS 17, *Insurance Contracts*, which sets out the accounting requirements for contractual rights and obligations that arise from insurance contracts issued and reinsurance contracts held. IFRS 17 is effective from 1 January 2021; however, as part of the targeted amendments to IFRS 17, the IASB is considering delaying the mandatory implementation date by one year. UBS AG is assessing the standard, but does not expect it to have a material effect on its financial statements.

Note 2a Segment reporting

The operational structure of UBS AG as of 31 December 2019 was comprised of Corporate Center and four business divisions: Global Wealth Management, Personal & Corporate Banking, Asset Management and the Investment Bank.

→ **Refer to "Segment reporting" in Note 1a for more information**

Global Wealth Management

Global Wealth Management provides investment advice and solutions to private clients, in particular in the ultra high net worth and high net worth segments. Clients benefit from Global Wealth Management's comprehensive set of capabilities, including wealth planning, investing, lending, asset protection, philanthropy, corporate and banking services, as well as family office services in collaboration with the Investment Bank and Asset Management. Global Wealth Management has a global footprint, with the US representing its largest market. Clients are served through local offices and dedicated advisors. The ultra high net worth business is managed globally across the regions.

Personal & Corporate Banking

Personal & Corporate Banking provides comprehensive financial products and services to private, corporate and institutional clients and operates in Switzerland in the private and corporate loan market. Personal & Corporate Banking is central to UBS's universal bank model in Switzerland and it works with Global Wealth Management, the Investment Bank and Asset Management to help clients receive the best products and solutions for their specific financial needs. While Personal & Corporate Banking operates primarily in its home market of Switzerland, it also provides capabilities to support the growth of the international business activities of UBS AG's corporate and institutional clients through local hubs in Frankfurt, New York, Hong Kong and Singapore. The business is divided into Personal Banking and Corporate & Institutional Clients (CIC).

Asset Management

Asset Management is a large-scale and diversified global asset manager. It offers investment capabilities and styles across all major traditional and alternative asset classes, as well as advisory support to institutions, wholesale intermediaries and Global Wealth Management clients around the world. Asset Management offers clients a wide range of investment products and services in different asset classes in the form of segregated, pooled or advisory mandates, as well as registered investment funds in various jurisdictions. It covers the main asset management markets globally, and has a local presence in 22 markets, grouped in four regions: the Americas; Europe, Middle East and Africa; Switzerland; and Asia Pacific.

Investment Bank

The Investment Bank provides a range of services to institutional, corporate and wealth management clients to help them raise capital, grow their businesses, invest and manage risks. It is focused on its traditional strengths in advisory services, capital markets, equities and foreign exchange, complemented by a targeted rates and credit platform. The Investment Bank uses its research and technology capabilities to support its clients as they adapt to the evolving market structures and changes in the regulatory, technological, economic and competitive landscapes. The Investment Bank delivers solutions to clients, using its intellectual capital and electronic platforms. It also provides services to Global Wealth Management, Personal & Corporate Banking and Asset Management. It has a global reach, with a presence in more than 30 countries and principal offices in the major financial hubs.

Corporate Center

Corporate Center consists of the Group Chief Operating Officer area (Group Technology, Group Corporate Services, Group Human Resources and Group Operations), Group Treasury, Group Finance, Group Legal, Group Risk Control, Group Communications & Branding, Group Compliance, Regulatory & Governance, UBS in society, and Non-core and Legacy Portfolio (NCL). Over recent years, UBS has progressively aligned its support functions with the business divisions. The majority of these functions are either fully aligned or shared among business divisions, where they have full management responsibility.

Group Treasury manages the structural risk of UBS AG's balance sheet, including interest rate risk, structural foreign exchange risk and collateral risk, as well as the risks associated with UBS AG's liquidity and funding portfolios. Group Treasury serves all business divisions through two main risk management areas, and its risk management is fully integrated into UBS AG's risk governance framework.

NCL manages legacy positions from businesses exited by the Investment Bank. It is overseen by a committee chaired by the Group Chief Risk Officer. The portfolio also includes positions relating to legal matters arising from businesses that were transferred to it at the time of its formation.

Beginning with the first quarter 2019 and in compliance with IFRS 8, *Operating Segments*, UBS AG provides results for total Corporate Center only and does not separately report Corporate Center – Services, Group Treasury and NCL.

Note 2a Segment reporting (continued)

Changes in Corporate Center cost and resource allocation to business divisions

In order to further align Group and divisional performance, UBS AG has adjusted its methodology for the allocation of Corporate Center funding costs and expenses to the business divisions. At the same time, it has updated its funds transfer pricing framework to better reflect the sources and usage of funding. Additionally, UBS AG has increased the allocation of balance sheet resources from Corporate Center to the business divisions. Prior periods have been restated and the effect on the respective reporting lines is outlined in the table below.

These changes had no effect on the reported results or financial position of UBS AG.

Upon adoption of IFRS 16, *Leases*, on 1 January 2019, UBS AG additionally allocated approximately USD 3.4 billion of newly recognized right-of-use assets and finance lease receivables to the business divisions.

→ **Refer to Note 1b for more information**

Effects of changes in Corporate Center cost and resource allocation to business divisions on prior-period information

USD million increase / (reduction)	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Corporate Center	UBS AG
For the year ended 31 December 2018						
Operating profit / (loss) before tax	(374)	(116)	(25)	(163)	677	0
Total assets	113,702	61,894	3,769	43,562	(222,927)	0
For the year ended 31 December 2017						
Operating profit / (loss) before tax	(351)	(133)	(24)	(180)	689	0
Total assets	102,641	58,196	3,329	41,628	(205,795)	0

Segment reporting

USD million	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Corporate Center	UBS AG
For the year ended 31 December 2019[1]						
Net interest income[2]	3,947	1,993	(25)	(669)	(831)	4,415
Non-interest income[2]	12,426	1,745	1,962	7,967	869	24,970
Income	16,373	3,737	1,938	7,298	38	29,385
Credit loss (expense) / recovery	(20)	(21)	0	(30)	(7)	(78)
Total operating income	16,353	3,717	1,938	7,268	31	29,307
Personnel expenses	7,618	852	720	2,732	1,879	13,801
General and administrative expenses	1,283	229	201	738	6,135	8,586
Services (to) / from Corporate Center and other business divisions	4,055	1,179	485	2,922	(8,642)	0
of which: services from Corporate Center	*3,922*	*1,293*	*530*	*2,976*	*(8,721)*	*0*
Depreciation and impairment of property, equipment and software	5	13	1	8	1,549	1,576
Amortization and impairment of goodwill and intangible assets[3]	56	0	0	115	4	175
Total operating expenses	13,018	2,274	1,407	6,515	925	24,138
Operating profit / (loss) before tax	3,335	1,443	531	753	(893)	5,169
Tax expense / (benefit)						1,198
Net profit / (loss)						3,971
Additional information						
Total assets	309,766	209,512	34,565	316,058	102,017	971,916
Additions to non-current assets[4]	68	10	0	1	4,935	5,014

1 Comparative figures in this table have been restated for the changes in Corporate Center cost and resource allocation to the business divisions and the changes in the equity attribution framework. Refer to further discussion in this note and in Note 1b. 2 Effective 1 January 2019, UBS refined the presentation of dividend income and expense, reclassifying dividends from financial instruments measured at fair value through profit or loss from Net interest income to Non-interest income. Prior-period information was restated accordingly, with virtually all of the effect on UBS AG arising from the Investment Bank. Refer to Note 1b for more information. 3 Refer to Note 16 for more information. 4 Upon adoption of IFRS 16 on 1 January 2019, UBS AG additionally allocated approximately USD 3.4 billion of newly recognized assets to the business divisions, of which USD 3.3 billion related to non-current assets. Refer to Note 1b for more information.

Note 2a Segment reporting (continued)

USD million	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Corporate Center	UBS AG
For the year ended 31 December 2018[1]						
Net interest income[2]	4,101	2,049	(29)	(459)	(690)	4,971
Non-interest income[2]	12,700	2,169	1,881	8,539	499	25,788
Income	16,801	4,218	1,852	8,080	(191)	30,759
Credit loss (expense) / recovery	(15)	(56)	0	(38)	(8)	(117)
Total operating income	16,786	4,162	1,852	8,042	(199)	30,642
Personnel expenses	7,680	799	702	2,936	1,875	13,992
General and administrative expenses	1,771	289	206	706	7,104	10,075
Services (to) / from Corporate Center and other business divisions	4,069	1,261	516	2,938	(8,784)	0
of which: services from Corporate Center	*3,935*	*1,365*	*561*	*2,991*	*(8,852)*	*0*
Depreciation and impairment of property, equipment and software	4	14	2	8	1,023	1,052
Amortization and impairment of goodwill and intangible assets[3]	50	0	1	12	2	65
Total operating expenses	13,574	2,363	1,427	6,600	1,220	25,184
Operating profit / (loss) before tax	3,212	1,799	425	1,442	(1,419)	5,458
Tax expense / (benefit)						1,345
Net profit / (loss)						4,113
Additional information						
Total assets	313,737	200,767	28,140	302,434	112,977	958,055
Additions to non-current assets	196	23	1	89	1,449	1,757

1 Comparative figures in this table have been restated for the changes in Corporate Center cost and resource allocation to the business divisions and the changes in the equity attribution framework. Refer to further discussion in this note and in Note 1b. 2 Effective 1 January 2019, UBS refined the presentation of dividend income and expense, reclassifying dividends from financial instruments measured at fair value through profit or loss from Net interest income to Non-interest income. Prior-period information was restated accordingly, with virtually all of the effect on UBS AG arising from the Investment Bank. Refer to Note 1b for more information. 3 Refer to Note 16 for more information.

Note 2a Segment reporting (continued)

USD million	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Corporate Center	UBS AG
For the year ended 31 December 2017[1]						
Net interest income[2]	3,880	2,044	(23)	234	(114)	6,021
Non-interest income[2]	12,265	1,815	2,100	7,508	466	24,155
Income[3]	16,145	3,859	2,077	7,742	352	30,176
Credit loss (expense) / recovery	(8)	(20)	0	(92)	(11)	(131)
Total operating income	16,137	3,839	2,077	7,651	341	30,044
Personnel expenses	7,679	849	731	3,007	2,686	14,952
General and administrative expenses	1,308	300	238	728	6,426	9,001
Services (to) / from Corporate Center and other business divisions	3,926	1,200	541	2,858	(8,525)	0
of which: services from Corporate Center	*3,803*	*1,318*	*580*	*2,892*	*(8,593)*	*0*
Depreciation and impairment of property, equipment and software	4	13	1	10	916	945
Amortization and impairment of goodwill and intangible assets[4]	49	0	3	12	7	71
Total operating expenses	12,966	2,363	1,515	6,614	1,510	24,969
Operating profit / (loss) before tax	3,171	1,476	562	1,036	(1,169)	5,076
Tax expense / (benefit)						4,242
Net profit / (loss)						834
Additional information						
Total assets	297,631	197,290	17,968	311,477	115,654	940,020
Additions to non-current assets	120	15	1	3	1,509	1,648

1 Comparative figures in this table have been restated for the changes in Corporate Center cost and resource allocation to the business divisions and the changes in the equity attribution framework. Refer to further discussion in this note and in Note 1b. 2 Effective 1 January 2019, UBS refined the presentation of dividend income and expense, reclassifying dividends from financial instruments measured at fair value through profit or loss from Net interest income to Non-interest income. Prior-period information was restated accordingly, with virtually all of the effect on UBS AG arising from the Investment Bank. Refer to Note 1b for more information. 3 Includes impairments of financial assets classified at fair value through other comprehensive income (prior to 2018 classified as financial assets available for sale) for the year ended 31 December 2017 of USD 15 million, of which USD 12 million was recorded in Asset Management. 4 Refer to Note 16 for more information.

Note 2b Segment reporting by geographic location

The operating regions shown in the table below correspond to the regional management structure of UBS AG. The allocation of operating income to these regions reflects, and is consistent with, the basis on which the business is managed and its performance is evaluated. These allocations involve assumptions and judgments that management considers to be reasonable, and may be refined to reflect changes in estimates or management structure. The main principles of the allocation methodology are that client revenues are attributed to the domicile of the client and trading and portfolio management revenues are attributed to the country where the risk is managed. This revenue attribution is consistent with the mandate of the regional Presidents. Certain revenues, such as those related to Non-core and Legacy Portfolio in Corporate Center, are managed at a Group level. These revenues are included in the *Global* line.

The geographic analysis of non-current assets is based on the location of the entity in which the assets are recorded.

For the year ended 31 December 2019

	Total operating income		Total non-current assets	
	USD billion	Share %	USD billion	Share %
Americas	12.0	41	8.9	46
of which: USA	*10.9*	*37*	*8.5*	*44*
Asia Pacific	4.7	16	1.3	7
Europe, Middle East and Africa (excluding Switzerland)	5.8	20	2.6	13
Switzerland	6.7	23	6.5	34
Global	0.0	0	0.0	0
Total	29.3	100	19.3	100

For the year ended 31 December 2018[1]

	Total operating income		Total non-current assets	
	USD billion	Share %	USD billion	Share %
Americas	12.6	41	7.4	46
of which: USA	*11.5*	*37*	*7.0*	*43*
Asia Pacific	4.9	16	0.8	5
Europe, Middle East and Africa (excluding Switzerland)	6.2	20	1.8	11
Switzerland	7.2	23	6.2	38
Global	(0.3)	(1)	0.0	0
Total	30.6	100	16.2	100

For the year ended 31 December 2017[1]

	Total operating income		Total non-current assets	
	USD billion	Share %	USD billion	Share %
Americas	12.0	40	7.4	47
of which: USA	*11.2*	*37*	*6.9*	*44*
Asia Pacific	4.8	16	0.8	5
Europe, Middle East and Africa (excluding Switzerland)	6.1	20	1.7	10
Switzerland	6.9	23	6.0	38
Global	0.2	1	0.0	0
Total	30.0	100	15.8	100

1 Comparative figures in this table have been restated for the changes in Corporate Center cost and resource allocation to the business divisions and the changes in the equity attribution framework. Refer to further discussion in this note and in Note 1b.

Income statement notes

Note 3 Net interest income and other net income from financial instruments measured at fair value through profit or loss

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Net interest income from financial instruments measured at amortized cost and fair value through other comprehensive income	3,400	3,628	4,969
Net interest income from financial instruments measured at fair value through profit or loss	1,015	1,344	1,052
Other net income from financial instruments measured at fair value through profit or loss	6,833	6,953	5,640
Total	11,248	11,924	11,661
Global Wealth Management	*4,913*	*5,050*	*4,942*
of which: net interest income	*3,947*	*4,101*	*3,880*
of which: transaction-based income from foreign exchange and other intermediary activity[1]	*966*	*948*	*1,062*
Personal & Corporate Banking	*2,436*	*2,452*	*2,420*
of which: net interest income	*1,993*	*2,049*	*2,044*
of which: transaction-based income from foreign exchange and other intermediary activity[1]	*443*	*402*	*376*
Asset Management	*(13)*	*(35)*	*(34)*
Investment Bank	*4,187*	*4,757*	*4,273*
Corporate Client Solutions	*716*	*1,051*	*1,076*
Investor Client Services	*3,471*	*3,705*	*3,197*
Corporate Center	*(276)*	*(299)*	*60*

Net interest income[2,3]

Net interest income from financial instruments measured at amortized cost and fair value through other comprehensive income			
Interest income from loans and deposits[4]	8,026	7,822	7,766
Interest income from securities financing transactions[5]	2,005	1,567	1,573
Interest income from other financial instruments measured at amortized cost	364	266	99
Interest income from debt instruments measured at fair value through other comprehensive income	120	142	152
Interest income from derivative instruments designated as cash flow hedges	188	324	846
Total interest income from financial instruments measured at amortized cost and fair value through other comprehensive income	10,703	10,121	10,437
Interest expense on loans and deposits[6]	4,541	3,566	2,515
Interest expense on securities financing transactions[7]	1,152	1,130	1,473
Interest expense on debt issued	1,491	1,797	1,480
Interest expense on lease liabilities[8]	118		
Total interest expense from financial instruments measured at amortized cost	7,303	6,494	5,468
Total net interest income from financial instruments measured at amortized cost and fair value through other comprehensive income	3,400	3,628	4,969
Net interest income from financial instruments measured at fair value through profit or loss			
Net interest income from financial instruments at fair value held for trading	1,218	1,111	1,374
Net interest income from brokerage balances	339	575	
Interest income from financial instruments at fair value not held for trading	2,274	1,757	
Other interest income	185	215	0
Interest expense on financial instruments designated at fair value	(3,000)	(2,314)	(322)
Total net interest income from financial instruments measured at fair value through profit or loss	1,015	1,344	1,052
Total net interest income	4,415	4,971	6,021

Other net income from financial instruments measured at fair value through profit or loss

Investment Bank Corporate Client Solutions	229	552	633
Investment Bank Investor Client Services	4,628	4,663	3,406
Other business divisions and Corporate Center	1,976	1,737	1,601
Other net income from financial instruments measured at fair value through profit or loss	6,833	6,953	5,640
of which: net gains / (losses) from financial liabilities designated at fair value[9]	*(8,748)*	*9,382*	*(3,979)*

1 Mainly includes spread-related income in connection with client-driven transactions, foreign currency translation effects and income and expenses from precious metals, which are included in the income statement line Other net income from financial instruments measured at fair value through profit or loss. 2 Effective 1 January 2018, UBS AG adopted IFRS 9, Financial Instruments, which resulted in a prospective change in the classification of certain financial instruments. Refer to "Note 1c Changes in accounting policies and comparability and transition effects from the adoption of IFRS 9 Financial Instruments" in the "Consolidated financial statements" section of the Annual Report 2018 for more information. 3 Effective 1 January 2019, UBS AG refined the presentation of dividend income and expense, reclassifying dividends from Interest income (expense) from financial instruments measured at fair value through profit or loss to Other net income from financial instruments measured at fair value through profit or loss. Prior-year comparative information was restated accordingly. Refer to Note 1b for more information. 4 Consists of interest income from cash and balances at central banks, loans and advances to banks and customers, cash collateral receivables on derivative instruments, and negative interest on amounts due to banks and customer deposits. 5 Includes interest income on receivables from securities financing transactions and negative interest, including fees, on payables from securities financing transactions. 6 Consists of interest expense on amounts due to banks, cash collateral payables on derivative instruments, customer deposits, funding from UBS Group AG and its subsidiaries, and negative interest on cash and balances at central banks, loans and advances to banks. 7 Includes interest expense on payables from securities financing transactions and negative interest, including fees, on receivables from securities financing transactions. 8 Relates to lease liabilities recognized upon adoption of IFRS 16 on 1 January 2019. Refer to Note 1b for more information. 9 Excludes fair value changes of hedges related to financial liabilities designated at fair value and foreign currency translation effects arising from translating foreign currency transactions into the respective functional currency, both of which are reported within Other net income from financial instruments measured at fair value through profit or loss. 2019 included a net loss of USD 1,830 million (2018: net gain of USD 2,152 million) related to financial liabilities related to unit-linked investment contracts, which are designated at fair value through profit or loss. This was offset by a net gain of USD 1,830 million (2018: net loss of USD 2,134 million) related to financial assets for unit-linked investment contracts that are mandatorily measured at fair value through profit or loss not held for trading.

Note 4 Net fee and commission income[1]

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Fee and commission income			
Underwriting fees	784	843	1,029
of which: equity underwriting fees	*360*	*431*	*573*
of which: debt underwriting fees	*424*	*412*	*456*
M&A and corporate finance fees	774	768	698
Brokerage fees	3,248	3,521	3,821
Investment fund fees	4,859	4,955	4,322
Portfolio management and related services	7,656	7,756	7,666
Other	1,836	1,789	1,854
Total fee and commission income[1]	19,156	19,632	19,390
of which: recurring	*12,545*	*12,911*	
of which: transaction-based	*6,449*	*6,629*	
of which: performance-based	*163*	*93*	
Fee and commission expense			
Brokerage fees paid	310	316	673
Distribution fees paid	590	580	514
Other	796	807	653
Total fee and commission expense	1,696	1,703	1,840
Net fee and commission income	17,460	17,930	17,550
of which: net brokerage fees	*2,938*	*3,205*	*3,148*

1 For the year ended 31 December 2019, reflects third-party fee and commission income of USD 11,694 million for Global Wealth Management, USD 3,397 million for the Investment Bank, USD 2,659 million for Asset Management, USD 1,307 million for Personal & Corporate Banking and USD 98 million for Corporate Center (for the year ended 31 December 2018: USD 12,059 million for Global Wealth Management, USD 3,557 million for the Investment Bank, USD 2,579 million for Asset Management, USD 1,338 million for Personal & Corporate Banking and USD 100 million for Corporate Center).

Note 5 Other income

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Associates, joint ventures and subsidiaries			
Net gains / (losses) from acquisitions and disposals of subsidiaries[1]	(36)	(292)[2,3]	32
Net gains / (losses) from disposals of investments in associates	4	46[4]	0
Share of net profits of associates and joint ventures	46	529[5]	76
Impairments related to associates	(1)	0	(7)
Total	13	283	101
Net gains / (losses) from disposals of financial assets measured at fair value through other comprehensive income	31	0	195
Impairment of financial assets measured at fair value through other comprehensive income	0	0	(15)
Net gains / (losses) from disposals of financial assets measured at amortized cost	0	0	14
Income from properties[6]	27	24	24
Net gains / (losses) from properties held for sale	(19)	40	0
Income from shared services provided to UBS Group AG or its subsidiaries	464	478	395
Other	161	80	251
Total other income	677	905	965

1 Includes foreign exchange gains / (losses) reclassified from other comprehensive income related to the disposal or closure of foreign operations. 2 Includes a remeasurement loss of USD 270 million related to UBS Securities China. Refer to Note 32 for more information. 3 Includes a USD 25 million gain on sale of subsidiaries and a USD 31 million pre-tax gain on sale of real estate related to the Widder Hotel. Refer to Note 32 for more information. 4 Reflects a net foreign currency translation gain related to UBS Securities China. Refer to Note 32 for more information. 5 Includes a USD 460 million valuation gain on our equity ownership in SIX related to the sale of SIX Payment Services to Worldline. 6 Includes rent received from third parties.

Note 6 Personnel expenses

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Salaries[1]	5,183	5,199	5,423
Variable compensation – performance awards[2]	2,545	2,794	3,054
of which: guarantees for new hires	*29*	*43*	*36*
Variable compensation – other[2]	225	220	231
of which: replacement payments[3]	*55*	*68*	*70*
of which: forfeiture credits	*(84)*	*(136)*	*(106)*
of which: severance payments[4]	*110*	*106*	*95*
of which: retention plan and other payments	*52*	*64*	*62*
of which: Deferred Contingent Capital Plan – interest expense	*93*	*116*	*110*
Financial advisor compensation[2,5]	4,043	4,054	4,064
Contractors	147	184	318
Social security	627	629	731
Pension and other post-employment benefit plans[6]	569	363	601
Other personnel expenses	461	549	531
Total personnel expenses	13,801	13,992	14,952

1 Includes role-based allowances. 2 Refer to Note 30 for more information. 3 Replacement payments are payments made to compensate employees for deferred awards forfeited as a result of joining UBS. 4 Includes legally obligated and standard severance payments. 5 Financial advisor compensation consists of grid-based compensation based directly on compensable revenues generated by financial advisors and supplemental compensation calculated on the basis of financial advisor productivity, firm tenure, assets and other variables. It also includes expenses related to compensation commitments with financial advisors entered into at the time of recruitment that are subject to vesting requirements. 6 Changes to the pension fund of UBS AG in Switzerland in 2018 resulted in a reduction in the pension obligation recognized by UBS AG. As a consequence, a pre-tax gain of USD 132 million was recognized in the income statement in 2018, with no overall effect on total equity. Refer to Note 29 for more information.

Note 7 General and administrative expenses

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Occupancy[1]	342	852	865
Rent and maintenance of IT and other equipment	339	326	422
Communication and market data services	517	520	544
Administration	5,176	5,383	3,644
of which: shared services costs charged by UBS Group AG or its subsidiaries	*4,621*	*4,803*	*3,046*
of which: UK and German bank levies[2]	*41*	*58*	*20*
Marketing and public relations	233	277	338
Travel and entertainment	325	367	382
Professional fees	782	870	1,086
Outsourcing of IT and other services	610	729	1,169
Litigation, regulatory and similar matters[3]	165	657	434
Other	97	95	118
Total general and administrative expenses	8,586	10,075	9,001

1 Occupancy expenses decreased following the application of IFRS 16, which was adopted on 1 January 2019. Refer to Note 1b for more information. 2 The UK bank levy expenses of USD 30 million (USD 40 million for 2018 and USD 17 million for 2017) included a credit of USD 31 million (USD 45 million and USD 85 million, respectively) related to prior years. 3 Reflects the net increase in provisions for litigation, regulatory and similar matters recognized in the income statement. Refer to Note 21 for more information. Also includes recoveries from third parties of USD 11 million, USD 29 million and USD 55 million for the years ended 31 December 2019, 31 December 2018 and 31 December 2017, respectively.

Note 8 Income taxes

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Tax expense / (benefit)			
Swiss			
Current	336	434	408
Deferred	246	2,326	91
Total Swiss	582	2,760	499
Non-Swiss			
Current	402	537	435
Deferred	214	(1,952)	3,308
Total non-Swiss	616	(1,415)	3,743
Total income tax expense / (benefit) recognized in the income statement	1,198	1,345	4,242

Income tax recognized in the income statement

Income tax expenses of USD 1,198 million were recognized for UBS AG in 2019, representing an effective tax rate of 23.2%. This included net Swiss tax expenses of USD 582 million and net non-Swiss tax expenses of USD 616 million.

The Swiss tax expenses included current tax expenses of USD 336 million related to taxable profits earned by Swiss subsidiaries. In addition, they included deferred tax expenses of USD 246 million, which primarily reflect the amortization of deferred tax assets (DTAs) previously recognized in relation to deductible temporary differences.

The non-Swiss tax expenses included current tax expenses of USD 402 million related to taxable profits earned by non-Swiss subsidiaries and branches. In addition, they included deferred tax expenses of USD 214 million. These included expenses of USD 474 million that primarily reflected the amortization of DTAs previously recognized in relation to tax losses carried forward and deductible temporary differences, including the amortization of US tax loss DTAs at the level of UBS Americas Inc. These were partly offset by a benefit of USD 260 million in respect of additional DTA recognition that resulted from the contribution of real estate assets by UBS AG to UBS Americas Inc. in the year. The additional DTA recognition related to the elections that were made in the fourth quarter of 2018 to capitalize certain historic real estate costs.

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Operating profit / (loss) before tax	5,169	5,458	5,076
of which: Swiss	*2,297*	*1,427*	*1,911*
of which: non-Swiss	*2,872*	*4,031*	*3,165*
Income taxes at Swiss tax rate of 20.5% for 2019 and 21% for 2018 and 2017	1,060	1,146	1,066
Increase / (decrease) resulting from:			
Non-Swiss tax rates differing from Swiss tax rate	72	68	230
Tax effects of losses not recognized	131	222	173
Previously unrecognized tax losses now utilized	(265)	(25)	(368)
Non-taxable and lower taxed income	(305)	(419)	(306)
Non-deductible expenses and additional taxable income	713	883	588
Adjustments related to prior years – current tax	1	114	(14)
Adjustments related to prior years – deferred tax	(6)	27	6
Change in deferred tax recognition	(293)	(802)	(165)
Adjustments to deferred tax balances arising from changes in tax rates	(9)	0	2,897
Other items	99	130	135
Income tax expense / (benefit)	1,198	1,345	4,242

The components of operating profit before tax, and the differences between income tax expense reflected in the financial statements and the amounts calculated at the Swiss tax rate, are provided in the table on the previous page and explained below.

Non-Swiss tax rates differing from Swiss tax rate

To the extent that UBS AG profits or losses arise outside Switzerland, the applicable local tax rate may differ from the Swiss tax rate. This item reflects, for such profits, an adjustment from the tax expense that would arise at the Swiss tax rate to the tax expense that would arise at the applicable local tax rate. Similarly, it reflects, for such losses, an adjustment from the tax benefit that would arise at the Swiss tax rate to the tax benefit that would arise at the applicable local tax rate.

Tax effects of losses not recognized

This item relates to tax losses of entities arising in the year that are not recognized as DTAs. Consequently, no tax benefit arises in relation to those losses. Therefore, the tax benefit calculated by applying the local tax rate to those losses as described above is reversed.

Previously unrecognized tax losses now utilized

This item relates to taxable profits of the year that are offset by tax losses of previous years for which no DTAs were previously recorded. Consequently, no current tax or deferred tax expense arises in relation to those taxable profits. Therefore, the tax expense calculated by applying the local tax rate on those profits is reversed.

Non-taxable and lower taxed income

This item relates to tax deductions for the year in respect of permanent differences. These include deductions in respect of profits that are either not taxable or are taxable at a lower rate of tax than the local tax rate. They also include deductions made for tax purposes, which are not reflected in the accounts.

Non-deductible expenses and additional taxable income

This item relates to additional taxable income for the year in respect of permanent differences. These include income that is recognized for tax purposes by an entity, but is not included in its profit that is reported in the financial statements. In addition, they include expenses for the year that are non-deductible. For example, the costs of entertaining clients are not deductible in certain locations.

Adjustments related to prior years – current tax

This item relates to adjustments to current tax expense for prior years, e.g., if the tax payable for a year is agreed with the tax authorities in an amount that differs from the amount previously reflected in the financial statements.

Adjustments related to prior years – deferred tax

This item relates to adjustments to deferred tax positions recognized in prior years, e.g., if a tax loss for a year is fully recognized and the amount of the tax loss agreed with the tax authorities is expected to differ from the amount previously recognized as DTAs in the accounts.

Change in deferred tax recognition

This item relates to changes in DTAs, including those previously recognized resulting from reassessments of expected future taxable profits. It also includes changes in temporary differences in the year, for which deferred tax is not recognized.

Adjustments to deferred tax balances arising from changes in tax rates

This item relates to remeasurements of DTAs and liabilities recognized due to changes in tax rates. These have the effect of changing the future tax saving that is expected from tax losses or deductible tax differences and therefore the amount of DTAs recognized or, alternatively, changing the tax cost of additional taxable income from taxable temporary differences and therefore the deferred tax liability.

Other items

Other items include other differences between profits or losses at the local tax rate and the actual local tax expense or benefit, including movements in provisions for uncertain positions in relation to the current year and other items.

Note 8 Income taxes (continued)

Income tax recognized directly in equity

Certain tax expenses and benefits were recognized directly in equity during the year. These included the following items:

- a net tax expense of USD 327 million recognized in other comprehensive income (OCI) (2018: net benefit of USD 314 million), which included a tax expense of USD 253 million related to cash flow hedges (2018: benefit of USD 67 million), a tax expense of USD 41 million related to financial assets recognized at fair value through OCI (2018: benefit of USD 12 million), a tax expense of USD 1 million related to foreign currency translation gains and losses (2018: expense of USD 2 million), a tax expense of USD 41 million related to defined benefit pension plans (2018: benefit of USD 245 million) and a tax benefit of USD 8 million related to own credit (2018: expense of USD 8 million);
- a net tax benefit of USD 11 million recognized in share premium (2018: benefit of USD 5 million).

Deferred tax assets and liabilities

UBS AG has gross DTAs, valuation allowances and recognized DTAs related to tax loss carry-forwards and deductible temporary differences and also deferred tax liabilities in respect of taxable temporary differences as shown in the table below. The valuation allowances reflect DTAs that were not recognized because it was not considered probable that future taxable profits will be available to utilize the related tax loss carry-forwards and deductible temporary differences.

Of the recognized DTAs as of 31 December 2019, USD 9.3 billion related to the US and USD 0.2 billion related to other locations (as of 31 December 2018, USD 9.5 billion related to the US and USD 0.6 billion related to other locations).

The recognition of DTAs is supported by forecasts of taxable profits for the entities concerned. In addition, tax planning opportunities are available that would result in additional future taxable income and these would be utilized, if necessary.

As of 31 December 2019, UBS AG has recognized DTAs of USD 75 million (31 December 2018: USD 53 million) in respect of entities that incurred losses in either the current or preceding year.

USD million	31.12.19			31.12.18		
Deferred tax assets[1]	Gross	Valuation allowance	Recognized	Gross	Valuation allowance	Recognized
Tax loss carry-forwards	14,826	(8,861)	5,965	15,088	(8,989)	6,099
Temporary differences	4,158	(610)	3,548	4,526	(559)	3,967
of which: related to real estate costs capitalized for US tax purposes	*2,219*	*0*	*2,219*	*2,159*	*(25)*	*2,134*
of which: related to compensation and benefits	*1,075*	*(179)*	*896*	*1,146*	*(192)*	*954*
of which: related to trading assets	*99*	*(5)*	*93*	*390*	*(50)*	*339*
of which: related to investments in subsidiaries and goodwill	*0*	*0*	*0*	*179*	*0*	*179*
of which: other	*765*	*(426)*	*340*	*653*	*(292)*	*361*
Total deferred tax assets	18,984	(9,471)	9,513	19,614	(9,548)	10,066
Deferred tax liabilities						
Goodwill and intangible assets			29			26
Cash flow hedges			156			0
Other			126			62
Total deferred tax liabilities			311			88

1 Less deferred tax liabilities as applicable.

Note 8 Income taxes (continued)

Unrecognized tax loss carry-forwards

USD million	31.12.19	31.12.18
Within 1 year	13	0
From 2 to 5 years	609	464
From 6 to 10 years	14,712	16,297
From 11 to 20 years	4,030	4,457
No expiry	18,364	17,210
Total	37,728	38,428

As of 31 December 2019, USD 17.8 billion of the unrecognized tax losses carried forward related to the US, USD 14.9 billion related to the UK and USD 5.0 billion related to other locations (as of 31 December 2018, USD 20.0 billion related to the US, USD 14.2 billion related to the UK and USD 4.2 billion related to other locations).

In general, US federal tax losses incurred prior to 31 December 2017 can be carried forward for 20 years, and US federal tax losses incurred after 31 December 2017 and UK tax losses can be carried forward indefinitely. The amounts of US tax loss carry-forwards that are included in the above table are based on their amount for federal tax purposes rather than for state and local tax purposes.

Deferred tax liabilities are recognized in respect of investments in subsidiaries, branches and associates and interests in joint arrangements, except to the extent that UBS AG can control the timing of the reversal of the associated taxable temporary difference and it is probable that it will not reverse in the foreseeable future. However, as of 31 December 2019, this exception was not considered to apply to any taxable temporary differences.

Note 9 Earnings per share (EPS) and shares outstanding

In 2015, UBS AG shares were delisted from the SIX Swiss Exchange and the New York Stock Exchange. As of 31 December 2019, 100% of UBS AG's issued shares were held by UBS Group AG and therefore were not publicly traded. Accordingly, earnings per share information is not provided for UBS AG.

Balance sheet notes

Note 10 Financial assets at amortized cost and other positions in scope of expected credit loss measurement

The tables on the following pages provide information about financial instruments and certain other credit lines that are subject to expected credit loss (ECL) requirements. UBS has established ECL disclosure segments or "ECL segments" to disaggregate portfolios based on shared risk characteristics and on the same or similar rating methods applied. The key segments are presented in the table below.

→ **Refer to Note 23 for more information about expected credit loss measurement**

Segment	Segment description	Description of credit risk sensitivity	Business division / Corporate Center
Private clients with mortgages	Lending to private clients secured by owner-occupied real estate and personal account overdrafts of those clients	Sensitive to the interest rate environment, employment status and influence from regional effects (e.g., property values)	– Personal & Corporate Banking – Global Wealth Management
Real estate financing	Rental or income-producing real estate financing to private and corporate clients secured by real estate	Sensitive to GDP development, the interest rate environment and regional effects (e.g., property values)	– Personal & Corporate Banking – Global Wealth Management – Investment Bank
Large corporate clients	Lending to large corporate and multinational clients	Sensitive to GDP development, seasonality, business cycles and collateral values (diverse collateral including real estate and other collateral types)	– Personal & Corporate Banking – Investment Bank
SME clients	Lending to small and medium-sized corporate clients	Sensitive to GDP development, the interest rate environment and, to some extent, seasonality, business cycles and collateral values (diverse collateral including real estate and other collateral types)	– Personal & Corporate Banking
Lombard	Loans secured by pledges of marketable securities, guarantees and other forms of collateral	Sensitive to the market (e.g., changes in collateral as well as in invested assets)	– Global Wealth Management
Credit cards	Credit card solutions in Switzerland and the US	Sensitive to the interest rate environment and employment status	– Personal & Corporate Banking – Global Wealth Management
Commodity trade finance	Working capital financing of commodity traders, generally extended on a self-liquidating transactional basis	Sensitive primarily to the strength of individual transaction structures and collateral values (price volatility of commodities) as the primary source for debt service is directly linked to the shipments financed	– Personal & Corporate Banking
Financial intermediaries and hedge funds	Lending to financial institutions and pension funds, including exposures to broker-dealers and clearing houses	Sensitive to GDP development, the interest rate environment, regulatory changes and political risk	– Personal & Corporate Banking – Investment Bank – Corporate Center

→ **Refer to Note 23g for more details regarding sensitivity**

Note 10 Financial assets at amortized cost and other positions in scope of expected credit loss measurement (continued)

For amortized cost instruments, the net carrying amount represents the maximum exposure to credit risk, taking into account the allowance for credit losses. Financial assets measured at fair value through other comprehensive income (FVOCI) are also subject to ECL; however, unlike for amortized cost instruments, the allowance does not reduce the carrying amount of these financial assets. Rather, the carrying amount of financial assets measured at FVOCI represents the maximum exposure to credit risk.

No purchased credit-impaired financial assets have been recognized in the period. Originated credit-impaired financial assets were not material and are not presented in the table below and on the following page.

In addition to on-balance sheet financial assets, certain off-balance sheet financial instruments and other credit lines are also subject to ECL. The maximum exposure to credit risk for off-balance sheet financial instruments is calculated based on the maximum contractual amounts.

USD million	31.12.19							
	Carrying amount[1]				ECL allowances			
Financial instruments measured at amortized cost	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Cash and balances at central banks	107,068	107,068	0	0	0	0	0	0
Loans and advances to banks	12,379	12,298	80	0	(6)	(4)	(1)	(1)
Receivables from securities financing transactions	84,245	84,245	0	0	(2)	(2)	0	0
Cash collateral receivables on derivative instruments	23,289	23,289	0	0	0	0	0	0
Loans and advances to customers	327,992	310,705	15,538	1,749	(764)	(82)	(123)	(559)
of which: Private clients with mortgages	*132,646*	*124,063*	*7,624*	*959*	*(110)*	*(15)*	*(55)*	*(41)*
of which: Real estate financing	*38,481*	*32,932*	*5,532*	*17*	*(43)*	*(5)*	*(34)*	*(4)*
of which: Large corporate clients	*9,703*	*9,184*	*424*	*94*	*(117)*	*(15)*	*(4)*	*(98)*
of which: SME clients	*11,786*	*9,817*	*1,449*	*521*	*(303)*	*(17)*	*(15)*	*(271)*
of which: Lombard	*112,893*	*112,796*	*0*	*98*	*(22)*	*(4)*	*0*	*(18)*
of which: Credit cards	*1,661*	*1,314*	*325*	*22*	*(35)*	*(8)*	*(14)*	*(13)*
of which: Commodity trade finance	*2,844*	*2,826*	*8*	*10*	*(81)*	*(5)*	*0*	*(77)*
Other financial assets measured at amortized cost	23,012	21,985	451	576	(143)	(35)	(13)	(95)
of which: Loans to financial advisors	*2,877*	*2,341*	*334*	*202*	*(109)*	*(29)*	*(11)*	*(70)*
Total financial assets measured at amortized cost	577,985	559,590	16,069	2,326	(915)	(124)	(137)	(655)
Financial assets measured at fair value through other comprehensive income	6,345	6,345	0	0	0	0	0	0
Total on-balance sheet financial assets in scope of ECL requirements	584,329	565,935	16,069	2,326	(915)	(124)	(137)	(655)

	Total exposure				ECL provisions			
Off-balance sheet (in scope of ECL)	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Guarantees	18,142	17,757	304	82	(42)	(8)	(1)	(33)
of which: Large corporate clients	*3,687*	*3,461*	*203*	*24*	*(10)*	*(1)*	*0*	*(9)*
of which: SME clients	*1,180*	*1,055*	*67*	*58*	*(24)*	*0*	*0*	*(23)*
of which: Financial intermediaries and hedge funds	*7,966*	*7,950*	*16*	*0*	*(5)*	*(4)*	*0*	*0*
of which: Lombard	*622*	*622*	*0*	*0*	*(1)*	*0*	*0*	*(1)*
of which: Commodity trade finance	*2,334*	*2,320*	*13*	*0*	*(1)*	*(1)*	*0*	*0*
Irrevocable loan commitments	27,547	27,078	419	50	(35)	(30)	(5)	0
of which: Large corporate clients	*18,735*	*18,349*	*359*	*27*	*(27)*	*(24)*	*(3)*	*0*
Forward starting reverse repurchase and securities borrowing agreements	1,657	1,657	0	0	0	0	0	0
Committed unconditionally revocable credit lines	36,979	35,735	1,197	46	(34)	(17)	(17)	0
of which: Real estate financing	*5,242*	*4,934*	*307*	*0*	*(16)*	*(3)*	*(13)*	*0*
of which: Large corporate clients	*4,274*	*4,188*	*69*	*17*	*(1)*	*(1)*	*0*	*0*
of which: SME clients	*4,787*	*4,589*	*171*	*27*	*(9)*	*(8)*	*(1)*	*0*
of which: Lombard	*7,976*	*7,975*	*0*	*1*	*0*	*0*	*0*	*0*
of which: Credit cards	*7,890*	*7,535*	*355*	*0*	*(6)*	*(4)*	*(2)*	*0*
of which: Commodity trade finance	*344*	*344*	*0*	*0*	*0*	*0*	*0*	*0*
Irrevocable committed prolongation of existing loans	3,289	3,285	0	4	(3)	(3)	0	0
Total off-balance sheet financial instruments and other credit lines	87,614	85,513	1,920	182	(114)	(58)	(23)	(33)
Total allowances and provisions					(1,029)	(181)	(160)	(688)

1 The carrying amount of financial assets measured at amortized cost represents the total gross exposure net of the respective ECL allowances.

Note 10 Financial assets at amortized cost and other positions in scope of expected credit loss measurement (continued)

USD million	31.12.18							
	Carrying amount[1]				ECL allowances			
Financial instruments measured at amortized cost	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Cash and balances at central banks	108,370	108,370	0	0	0	0	0	0
Loans and advances to banks	16,642	16,440	202	0	(7)	(4)	(1)	(3)
Receivables from securities financing transactions	95,349	95,349	0	0	(2)	(2)	0	0
Cash collateral receivables on derivative instruments	23,603	23,603	0	0	0	0	0	0
Loans and advances to customers	321,482	299,378	20,357	1,748	(772)	(69)	(155)	(549)
of which: Private clients with mortgages	*126,335*	*115,679*	*9,859*	*796*	*(138)*	*(16)*	*(83)*	*(39)*
of which: Real estate financing	*36,474*	*28,578*	*7,858*	*38*	*(59)*	*(3)*	*(40)*	*(16)*
of which: Large corporate clients	*11,390*	*10,845*	*457*	*88*	*(95)*	*(9)*	*(4)*	*(82)*
of which: SME clients	*9,924*	*8,029*	*1,263*	*632*	*(281)*	*(13)*	*(12)*	*(256)*
of which: Lombard	*111,722*	*111,707*	*0*	*14*	*(21)*	*(4)*	*0*	*(17)*
of which: Credit cards	*1,529*	*1,216*	*297*	*16*	*(30)*	*(6)*	*(13)*	*(11)*
of which: Commodity trade finance	*3,260*	*2,798*	*445*	*16*	*(86)*	*(5)*	*(3)*	*(78)*
Other financial assets measured at amortized cost	22,637	21,936	223	478	(155)	(43)	(4)	(109)
of which: Loans to financial advisors	*3,291*	*3,104*	*62*	*125*	*(113)*	*(34)*	*(2)*	*(77)*
Total financial assets measured at amortized cost	588,084	565,076	20,782	2,226	(937)	(117)	(159)	(660)
Financial assets measured at fair value through other comprehensive income	6,667	6,667	0	0	0	0	0	0
Total on-balance sheet financial assets in scope of ECL requirements	594,750	571,743	20,782	2,226	(937)	(117)	(159)	(660)
	Total exposure				ECL provisions			
Off-balance sheet (in scope of ECL)	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Guarantees	18,146	17,321	611	215	(43)	(7)	(2)	(34)
of which: Large corporate clients	*3,862*	*3,599*	*136*	*127*	*(8)*	*(1)*	*(1)*	*(6)*
of which: SME clients	*1,298*	*1,057*	*164*	*77*	*(26)*	*0*	*0*	*(25)*
of which: Financial intermediaries and hedge funds	*7,193*	*7,125*	*67*	*0*	*(4)*	*(3)*	*0*	*0*
of which: Lombard	*834*	*834*	*0*	*0*	*0*	*0*	*0*	*0*
of which: Commodity trade finance	*2,097*	*1,851*	*236*	*11*	*(1)*	*(1)*	*0*	*0*
Irrevocable loan commitments	31,212	30,590	568	53	(37)	(32)	(5)	0
of which: Large corporate clients	*22,019*	*21,492*	*519*	*7*	*(31)*	*(26)*	*(4)*	*0*
Forward starting reverse repurchase and securities borrowing agreements	937	937	0	0	0	0	0	0
Committed unconditionally revocable credit lines	38,851	37,338	1,420	93	(36)	(19)	(16)	0
of which: Real estate financing	*2,562*	*2,150*	*401*	*11*	*(17)*	*(4)*	*(12)*	*0*
of which: Large corporate clients	*4,260*	*4,152*	*91*	*17*	*(2)*	*(1)*	*0*	*0*
of which: SME clients	*4,505*	*4,163*	*285*	*57*	*(7)*	*(6)*	*(1)*	*0*
of which: Lombard	*7,402*	*7,402*	*0*	*0*	*0*	*(1)*	*0*	*0*
of which: Credit cards	*7,343*	*7,035*	*309*	*0*	*(6)*	*(4)*	*(2)*	*0*
of which: Commodity trade finance	*3,467*	*3,209*	*254*	*4*	*(2)*	*(2)*	*0*	*0*
Irrevocable committed prolongation of existing loans	3,339	2,861	456	22	(1)	(1)	0	0
Total off-balance sheet financial instruments and other credit lines	92,486	89,048	3,055	383	(116)	(59)	(23)	(34)
Total allowances and provisions					(1,054)	(176)	(183)	(695)

1 The carrying amount of financial assets measured at amortized cost represents the total gross exposure net of the respective ECL allowances.

Note 10 Financial assets at amortized cost and other positions in scope of expected credit loss measurement (continued)

Coverage ratios are calculated by taking ECL allowances and provisions divided by the gross carrying amount of the exposures. These ratios have remained broadly unchanged in 2019 and are influenced by the following key factors:

- significant asset balances are held with central banks as part of the requirement to hold high-quality liquid assets;
- Lombard loans are secured with marketable securities in portfolios which are in general highly diversified with strict lending policies that are intended to ensure that credit risk is minimal under most circumstances;
- mortgage loans to private clients and real estate financing are controlled by conservative eligibility criteria, including low loan-to-value ratios and strong debt service capabilities. The risk of rising interest rates has been taken into account in the scenario selection process;
- the amount of unsecured retail lending (including credit cards) in Switzerland is insignificant;
- contractual maturities in the loan portfolio, which are a factor in the calculation of ECLs, are generally short, with a large part of the loan portfolio having contractual maturities of 12 month or less;
- for example, the carrying amount of Swiss residential mortgage loans would continue to be fully covered or 98% covered by real estate collateral, even if the value of that collateral decreased by 20% or 30%, respectively.

Certain assets reported in stage 2 within the *Private clients with mortgages* and *Real estate financing* segments did not have a comparable rating on origination upon which to base the assessment of whether a significant increase in credit risk (SICR) has occurred. In accordance with the IFRS 9 transition requirements, a lifetime ECL has been recognized for these assets. In the medium term and based on the current economic outlook, UBS expects the proportion of these stage 2 assets to reduce to some extent.

	31.12.19							
	Gross carrying amount (USD million)				ECL coverage (bps)			
Financial instruments measured at amortized cost	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Loans and advances to customers	328,756	310,787	15,661	2,308	23	3	79	2,420
of which: Private clients with mortgages	*132,756*	*124,077*	*7,679*	*1,000*	*8*	*1*	*72*	*406*
of which: Real estate financing	*38,524*	*32,937*	*5,567*	*21*	*11*	*2*	*62*	*1,765*
of which: Large corporate clients	*9,819*	*9,199*	*429*	*192*	*119*	*16*	*100*	*5,088*
of which: SME clients	*12,089*	*9,834*	*1,464*	*791*	*251*	*18*	*104*	*3,420*
of which: Lombard	*112,915*	*112,799*	*0*	*116*	*2*	*0*	*0*	*1,566*
of which: Credit cards	*1,696*	*1,322*	*339*	*35*	*205*	*60*	*404*	*3,718*
of which: Commodity trade finance	*2,925*	*2,831*	*8*	*87*	*278*	*17*	*3*	*8,844*
Other financial assets measured at amortized cost	23,154	22,019	463	672	62	16	274	1,420
of which: Loans to financial advisors	*2,987*	*2,370*	*344*	*272*	*366*	*122*	*305*	*2,570*
Total financial assets measured at amortized cost	578,899	559,714	16,206	2,981	16	2	84	2,198
Financial assets measured at fair value through other comprehensive income	6,345	6,345	0	0	0	0	0	0
Total on-balance sheet financial assets in scope of ECL requirements	585,245	566,059	16,206	2,981	16	2	84	2,198

	Gross exposure (USD million)				ECL coverage (bps)			
Off-balance sheet (in scope of ECL)	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Guarantees	18,142	17,757	304	82	23	4	30	4,032
Irrevocable loan commitments	27,547	27,078	419	50	13	11	120	0
Forward starting reverse repurchase and securities borrowing agreements	1,657	1,657	0	0	0	0	0	0
Committed unconditionally revocable credit lines	36,979	35,735	1,197	46	9	5	143	0
Irrevocable committed prolongation of existing loans	3,289	3,285	0	4	8	8	0	0
Total off-balance sheet financial instruments and other credit lines	87,614	85,513	1,920	182	13	7	120	1,822
Total allowances and provisions					29	9	204	4,020

Note 10 Financial assets at amortized cost and other positions in scope of expected credit loss measurement (continued)

As explained in Note 1a, the assessment of an SICR considers a number of qualitative and quantitative factors to determine if a stage transfer between stage 1 and stage 2 is required. The primary assessment considers changes in probability of default (PD) based on rating analyses and economic outlook. Additionally, UBS considers counterparties that have moved to a credit watch list and those with payments that are 30 days past due.

USD million	ECL allowances / provisions						
Financial instruments measured at amortized cost	Total	Stage 1	Stage 2	*of which: PD layer*	*of which: watch list*	*of which: ≥30 days past due*	Stage 3
Mortgages, business loans and related off-balance sheet commitments in the region Switzerland	723	89	137	*93*	*6*	*38*	497
of which: Private clients with mortgages	*88*	*11*	*53*	*40*	*0*	*13*	*27*
of which: Real estate financing	*59*	*8*	*47*	*36*	*0*	*11*	*4*
of which: Large corporate clients	*57*	*6*	*4*	*0*	*4*	*0*	*47*
of which: SME clients	*310*	*25*	*9*	*6*	*2*	*1*	*276*
of which: Lombard	*3*	*2*	*0*	*0*	*0*	*0*	*1*
of which: Leasing	*42*	*6*	*12*	*11*	*0*	*1*	*24*
of which: Credit cards	*33*	*9*	*11*	*0*	*0*	*11*	*12*
of which: Other	*128*	*23*	*2*	*2*	*0*	*0*	*106*

Note 11 Derivative instruments

Derivatives: overview

A derivative is a financial instrument for which the value is derived from one or more variables (underlyings). Underlyings may be indices, foreign currency exchange or interest rates, or the value of shares, commodities, bonds or other financial instruments. A derivative commonly requires little or no initial net investment by either counterparty to the trade.

The majority of derivative contracts are negotiated with respect to notional amounts, tenor, price and settlement mechanisms, as is customary with other financial instruments.

Over-the-counter (OTC) derivative contracts are usually traded under a standardized International Swaps and Derivatives Association (ISDA) master agreement between UBS AG and its counterparties. Terms are negotiated directly with counterparties and the contracts have industry standard settlement mechanisms prescribed by ISDA. Beginning in 2016, regulators in various jurisdictions began a phased introduction of rules requiring the payment and collection of initial and variation margin on certain OTC derivative contracts, which may have a bearing on their price and other relevant terms. Under the final rules of the Basel Committee on Banking Supervision (BCBS) and the Board of the International Organization of Securities Commissions (IOSCO) promulgated in July 2019, the final phase-in of margin requirements for non-centrally cleared derivatives will be completed on 1 September 2021.

The industry continues to promote the use of central counterparties (CCPs) to clear OTC trades. The trend toward CCP clearing and settlement will generally facilitate the reduction of systemic credit exposures.

Other derivative contracts are standardized in terms of their amounts and settlement dates, and are bought and sold on regulated exchanges. These are commonly referred to as exchange-traded derivatives (ETD) contracts. Exchanges offer the benefits of pricing transparency, standardized daily settlement of changes in value and consequently reduced credit risk.

For presentation purposes, UBS AG's derivative contracts are subject to IFRS netting provisions. Derivative instruments are measured at fair value and generally classified on the balance sheet as *Derivative financial instruments* within *Assets* when having positive replacement values and *Derivative financial instruments* within *Liabilities* when having negative replacement values. However, ETD that are economically settled on a daily basis and OTC derivatives that are either legally settled or in substance net settled on a daily basis are classified as *Cash collateral receivables on derivative instruments* or *Cash collateral payables on derivative instruments*. Changes in the replacement values of derivatives are recorded in *Other net income from financial instruments measured at fair value through profit or loss,* except for interest on derivatives designated as hedging instruments in effective hedge accounting relationships and forward points on certain short- and long-duration foreign exchange contracts, which are recorded in *Net interest income*.

→ **Refer to Note 1a items 3j and 3k for more information**

→ **Refer to Note 25 for more information about derivative financial assets and liabilities after consideration of netting potential allowed under enforceable netting arrangements**

UBS AG uses various derivative instruments for both trading and hedging purposes. Derivative product types as well as valuation principles and techniques applied by UBS AG are described in Note 24. Positive replacement values represent the estimated amount UBS AG would receive if the derivative contract were sold on the balance sheet date. Negative replacement values indicate the estimated amount UBS AG would pay to transfer its obligations in respect of the underlying contract were it required or entitled to do so on the balance sheet date.

Derivatives embedded in other financial instruments are not included in the "Derivative instruments" table within this Note. Bifurcated embedded derivatives are presented on the same balance sheet line as the host contract. In cases where UBS AG applies the fair value option to hybrid instruments, bifurcation of an embedded derivative component is not required and as such this component is also not included in the "Derivative instruments" table.

→ **Refer to Notes 19 and 24 for more information**

Note 11 Derivative instruments (continued)

Risks of derivative instruments

Derivative instruments are transacted in many trading portfolios, which generally include several types of instruments, not just derivatives. The market risk of derivatives is predominantly managed and controlled as an integral part of the market risk of these portfolios. UBS AG's approach to market risk is described in the audited portions of "Market risk" in the "Risk management and control" section of this report.

Derivative instruments are also transacted with many different counterparties, most of whom are also counterparties for other types of business. The credit risk of derivatives is managed and controlled in the context of UBS AG's overall credit exposure to its counterparties. UBS AG's approach to credit risk is described in the audited portions of "Credit risk" in the "Risk management and control" section of this report. It should be noted that, although the derivative financial assets shown on the balance sheet can be an important component of UBS AG's credit exposure, the positive replacement values related to a respective counterparty are rarely an adequate reflection of UBS AG's credit exposure in its derivatives business with that counterparty. This is generally the case because, on the one hand, replacement values can increase over time (potential future exposure), while on the other hand, exposure may be mitigated by entering into master netting agreements and bilateral collateral arrangements. Both the exposure measures used internally by UBS AG to control credit risk and the capital requirements imposed by regulators reflect these additional factors.

→ **Refer to Note 25 for more information about derivative financial assets and liabilities after consideration of netting potential allowed under enforceable netting arrangements**

Note 11 Derivative instruments (continued)

Derivative instruments[1,2]

USD billion	31.12.19 Derivative financial assets	31.12.19 Notional values related to derivative financial assets[3]	31.12.19 Derivative financial liabilities	31.12.19 Notional values related to derivative financial liabilities[3]	31.12.19 Other notional values[3,4]	31.12.18 Derivative financial assets	31.12.18 Notional values related to derivative financial assets[3]	31.12.18 Derivative financial liabilities	31.12.18 Notional values related to derivative financial liabilities[3]	31.12.18 Other notional values[3,4]
Interest rate contracts										
Over-the-counter (OTC) contracts										
Forward contracts	0.0	2.8	0.3	5.1	3,136.8	0.0	1.4	0.1	3.1	2,873.9
Swaps	34.3	454.7	26.2	402.9	8,086.0	29.5	459.8	23.5	441.8	7,189.1
Options	8.1	464.8	10.0	486.1		7.6	562.2	9.0	550.0	
Exchange-traded contracts										
Futures					546.9					516.1
Options	0.0	84.4	0.0	66.6	229.5	0.0	27.7	0.0	26.3	199.7
Agency transactions[5]	0.1		0.1			0.0		0.1		
Total	42.6	1,006.6	36.6	960.7	11,999.2	37.1	1,051.1	32.7	1,021.3	10,778.8
Credit derivative contracts										
Over-the-counter (OTC) contracts										
Credit default swaps	1.7	65.0	2.2	66.0		1.7	68.8	2.1	73.2	
Total return swaps	0.3	2.0	0.8	3.3		0.2	3.0	0.6	3.7	
Options and warrants	0.0	3.3	0.0	0.6		0.0	2.7	0.0	1.4	
Total	2.0	70.2	3.0	69.9		1.9	74.5	2.7	78.3	
Foreign exchange contracts										
Over-the-counter (OTC) contracts										
Forward contracts	22.4	935.5	23.4	966.6		20.3	708.8	20.9	731.2	
Interest and currency swaps	22.8	1,573.2	23.8	1,418.5		24.8	1,299.7	24.6	1,203.5	
Options	7.3	660.9	6.8	604.9		8.3	613.8	7.8	577.4	
Exchange-traded contracts										
Futures					1.2					0.4
Options	0.0	4.0	0.0	3.8		0.0	3.6	0.0	5.3	
Agency transactions[5]	0.0		0.0			0.0		0.1		
Total	52.5	3,173.6	54.0	2,993.8	1.2	53.5	2,625.8	53.4	2,517.3	0.4
Equity / index contracts										
Over-the-counter (OTC) contracts										
Forward contracts	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Swaps	4.0	81.3	5.5	96.3		4.7	78.5	5.6	86.3	
Options	5.0	88.6	6.8	144.1		5.5	97.6	7.2	139.6	
Exchange-traded contracts										
Futures					84.9					71.7
Options	7.2	250.4	7.8	294.1	37.2	10.1	232.8	9.0	262.8	34.1
Agency transactions[5]	6.6		5.4			11.2		13.3		
Total	22.8	420.3	25.5	534.5	122.1	31.4	408.9	35.0	488.8	105.9

Table continues on the next page.

Note 11 Derivative instruments (continued)

Derivative instruments (continued)[1,2]

Table continued from the previous page.

	31.12.19					31.12.18				
USD billion	Derivative financial assets	Notional values related to derivative financial assets[3]	Derivative financial liabilities	Notional values related to derivative financial liabilities[3]	Other notional values[3,4]	Derivative financial assets	Notional values related to derivative financial assets[3]	Derivative financial liabilities	Notional values related to derivative financial liabilities[3]	Other notional values[3,4]
Commodity contracts										
Over-the-counter (OTC) contracts										
Forward contracts	0.1	4.2	0.2	5.7		0.1	3.2	0.1	3.4	
Swaps	0.4	13.8	0.6	15.1		0.7	15.2	0.4	9.9	
Options	1.0	27.4	0.4	23.6		0.4	18.6	0.3	16.1	
Exchange-traded contracts										
Futures					12.0					8.5
Forward contracts	0.0	5.9	0.0	4.9		0.0	6.6	0.0	5.4	
Options	0.1	4.8	0.1	10.7	0.6	0.1	2.9	0.0	3.7	0.1
Agency transactions[5]	0.3		0.5			0.4		0.7		
Total	1.8	56.1	1.7	60.0	12.6	1.8	46.4	1.5	38.5	8.6
Unsettled purchases of non-derivative financial instruments[6]	0.1	16.6	0.1	6.9		0.2	17.0	0.1	6.0	
Unsettled sales of non-derivative financial instruments[6]	0.1	15.4	0.1	9.7		0.4	15.1	0.2	13.2	
Total derivative instruments, based on IFRS netting[7]	121.8	4,758.9	120.9	4,635.4	12,135.1	126.2	4,238.7	125.7	4,163.4	10,893.6

1 Derivative financial liabilities as of 31 December 2019 include USD 17 million related to derivative loan commitments (31 December 2018: USD 17 million). No notional amounts related to these commitments are included in this table, but they are disclosed in Note 34 under Loan commitments. 2 Includes certain forward starting repurchase and reverse repurchase agreements that are classified as measured at fair value through profit or loss and are recognized within derivative instruments. The fair value of these derivative instruments was not material as of 31 December 2019 or 31 December 2018. No notional amounts related to these instruments are included in this table, but they are disclosed in Note 34 under Forward starting transactions. 3 In cases where derivative financial instruments are presented on a net basis on the balance sheet, the respective notional values of the netted derivative financial instruments are still presented on a gross basis. 4 Other notional values relate to derivatives that are cleared through either a central counterparty or an exchange. The fair value of these derivatives is presented on the balance sheet net of the corresponding cash margin under Cash collateral receivables on derivative instruments and Cash collateral payables on derivative instruments and was not material for all periods presented. 5 Notional values of exchange-traded agency transactions and OTC-cleared transactions entered into on behalf of clients are not disclosed as they have a significantly different risk profile. 6 Changes in the fair value of purchased and sold non-derivative financial instruments between trade date and settlement date are recognized as derivative financial instruments. 7 Financial assets and liabilities are presented net on the balance sheet if UBS AG has the unconditional and legally enforceable right to offset the recognized amounts, both in the normal course of business and in the event of default, bankruptcy or insolvency of the entity and all of the counterparties, and intends either to settle on a net basis or to realize the asset and settle the liability simultaneously. Refer to Note 25 for more information on netting arrangements.

The notional amount of a derivative is generally the quantity of the underlying instrument on which the derivative contract is based and is the reference against which changes in the value of the derivative are measured. Notional values in themselves are generally not a direct indication of the values that are exchanged between parties, and are therefore not a direct measure of risk or financial exposure but are viewed as an indication of the scale of the different types of derivatives entered into by UBS AG.

On a notional value basis, approximately 54% of OTC interest rate contracts held as of 31 December 2019 (31 December 2018: 56%) mature within one year, 28% (31 December 2018: 28%) within one to five years and 18% (31 December 2018: 16%) after five years. Notional values of interest rate contracts cleared with a clearing house that qualify for IFRS balance sheet netting or are legally settled on a daily basis are presented under *Other notional values* and are categorized into maturity buckets on the basis of contractual maturities of the cleared underlying derivative contracts.

Derivatives transacted for sales and trading purposes

Most of UBS AG's derivative transactions relate to sales and trading activities. Sales activities include the structuring and marketing of derivative products to customers to enable them to take, transfer, modify or reduce current or expected risks. Trading activities include market-making to directly support the facilitation and execution of client activity. Market-making involves quoting bid and offer prices to other market participants with the intention of generating revenues based on spread and volume.

Credit derivatives

UBS AG is an active dealer in the fixed income market, including credit default swaps (CDS) and related products, with respect to a large number of issuers' securities. The primary objectives of these activities are ongoing hedging of trading book exposures and market-making, primarily on behalf of clients.

Market-making activity, which is undertaken within the Investment Bank, consists of buying and selling single-name CDS, index CDS, loan CDS and related referenced cash instruments to facilitate client trading activity. UBS AG also actively utilizes CDS to economically hedge specific counterparty credit risks in its accrual and traded loan portfolios (including off-balance sheet loan commitments) with the aim of reducing concentrations in individual names, sectors or specific portfolios.

In addition, UBS AG actively utilizes CDS to economically hedge specific counterparty credit risks in its OTC derivative portfolios, including financial instruments that are designated at fair value through profit or loss.

The tables below provide more information about credit protection bought and sold, including replacement and notional value information by instrument type and counterparty type. The value of protection bought and sold is not, in isolation, a measure of UBS AG's credit risk. Counterparty relationships are viewed in terms of the total outstanding credit risk, which relates to other instruments in addition to CDS, and in connection with collateral arrangements in place. On a notional value basis, approximately 27% of credit protection bought and sold as of 31 December 2019 matures within one year (31 December 2018: 14%), approximately 63% within one to five years (31 December 2018: 74%) and approximately 10% after five years (31 December 2018: 12%).

Credit derivatives by type of instrument

	Protection bought			Protection sold		
USD billion	Derivative financial assets	Derivative financial liabilities	Notional values	Derivative financial assets	Derivative financial liabilities	Notional values
Single-name credit default swaps	0.3	0.7	37.5	0.8	0.7	38.6
Multi-name index-linked credit default swaps	0.1	0.8	29.3	0.5	0.1	24.9
Multi-name other credit default swaps	0.0	0.0	0.4	0.0	0.0	0.3
Total rate of return swaps	0.2	0.6	3.7	0.1	0.2	1.6
Options and warrants	0.0	0.0	3.8	0.0	0.0	0.1
Total 31 December 2019	0.7	2.1	74.6	1.3	0.9	65.4
of which: credit derivatives related to economic hedges	*0.6*	*1.7*	*56.1*	*0.9*	*0.8*	*45.7*
of which: credit derivatives related to market-making	*0.1*	*0.4*	*18.6*	*0.5*	*0.1*	*19.7*

	Protection bought			Protection sold		
USD billion	Derivative financial assets	Derivative financial liabilities	Notional values	Derivative financial assets	Derivative financial liabilities	Notional values
Single-name credit default swaps	0.6	0.6	43.3	0.5	1.0	44.9
Multi-name index-linked credit default swaps	0.3	0.3	29.1	0.3	0.2	24.4
Multi-name other credit default swaps	0.0	0.0	0.1	0.0	0.0	0.1
Total rate of return swaps	0.2	0.7	4.7	0.0	0.0	2.0
Options and warrants	0.0	0.0	4.1	0.0	0.0	0.1
Total 31 December 2018	1.1	1.6	81.3	0.8	1.2	71.4
of which: credit derivatives related to economic hedges	*0.9*	*1.3*	*59.2*	*0.5*	*1.1*	*48.9*
of which: credit derivatives related to market-making	*0.2*	*0.4*	*22.1*	*0.3*	*0.2*	*22.6*

Note 11 Derivative instruments (continued)

Credit derivatives by counterparty

	Protection bought			Protection sold		
USD billion	Derivative financial assets	Derivative financial liabilities	Notional values	Derivative financial assets	Derivative financial liabilities	Notional values
Broker-dealers	0.1	0.2	10.5	0.2	0.1	9.4
Banks	0.2	0.4	23.6	0.4	0.3	21.5
Central clearing counterparties	0.1	0.9	34.7	0.7	0.2	31.6
Other	0.3	0.7	5.8	0.1	0.3	2.9
Total 31 December 2019	0.7	2.1	74.6	1.3	0.9	65.4

	Protection bought			Protection sold		
USD billion	Derivative financial assets	Derivative financial liabilities	Notional values	Derivative financial assets	Derivative financial liabilities	Notional values
Broker-dealers	0.2	0.1	13.0	0.1	0.2	11.5
Banks	0.4	0.4	29.2	0.3	0.5	25.6
Central clearing counterparties	0.2	0.4	31.9	0.4	0.3	30.8
Other	0.3	0.7	7.2	0.0	0.3	3.5
Total 31 December 2018	1.1	1.6	81.3	0.8	1.2	71.4

UBS AG's CDS trades are documented using industry standard forms of documentation or equivalent terms documented in a bespoke agreement. The agreements that govern CDS generally do not contain recourse provisions that would enable UBS AG to recover from third parties any amounts paid out by UBS AG.

The types of credit events that would require UBS AG to perform under a CDS contract are subject to agreement between the parties at the time of the transaction. However, nearly all transactions are traded with reference to credit events that are applicable under certain market conventions based on the type of reference entity to which the transaction relates. Applicable credit events according to market conventions include bankruptcy, failure to pay, restructuring, obligation acceleration and repudiation / moratorium.

Contingent collateral features of derivative liabilities

Certain derivative instruments contain contingent collateral or termination features triggered upon a downgrade of the published credit ratings of UBS AG in the normal course of business. Based on UBS AG's credit ratings as of 31 December 2019, USD 0.0 billion, USD 0.3 billion and USD 0.8 billion would have been required for contractual obligations related to OTC derivatives in the event of a one-notch, two-notch and three-notch reduction in long-term credit ratings, respectively. In evaluating UBS AG's liquidity requirements, UBS AG considers additional collateral or termination payments that would be required in the event of a reduction in UBS AG's long-term credit ratings, and a corresponding reduction in UBS AG's short-term ratings.

Note 12 Financial assets and liabilities at fair value held for trading

USD million	31.12.19	31.12.18
Financial assets at fair value held for trading[1]		
Equity instruments	96,788	72,771
Government bills / bonds	11,464	11,161
Investment fund units	8,867	9,716
Corporate and municipal bonds	8,093	6,908
Loans	1,971	3,566
Asset-backed securities	512	392
Total financial assets at fair value held for trading	127,695	104,513
Financial liabilities at fair value held for trading[1]		
Equity instruments	22,734	21,892
Corporate and municipal bonds	3,661	3,530
Government bills / bonds	3,466	2,839
Investment fund units	698	689
Other	32	0
Total financial liabilities at fair value held for trading	30,591	28,949

1 Refer to Note 24c for more information on product type and fair value hierarchy categorization.

Note 13 Financial assets at fair value not held for trading

USD million	31.12.19	31.12.18
Financial assets at fair value not held for trading[1]		
Financial assets for unit-linked investment contracts	27,686	21,446
Corporate and municipal bonds	19,385	17,236
Government bills / bonds	15,790	22,493
Loans	11,438	8,132
Securities financing transactions	6,294	9,937
Auction rate securities	1,536	1,664
Investment fund units	432	407
Equity instruments	559	702
Other	515	369
Total financial assets at fair value not held for trading	83,636	82,387

1 Refer to Note 24c for more information on product type and fair value hierarchy categorization.

Note 14 Financial assets measured at fair value through other comprehensive income

USD million	31.12.19	31.12.18
Financial assets measured at fair value through other comprehensive income[1]		
Debt instruments		
Government and government agencies	6,162	6,463
of which: USA	*5,814*	*6,101*
Banks	178	149
Corporates and other	4	54
Total financial assets measured at fair value through other comprehensive income	6,345	6,667
Unrealized gains – before tax	41	4
Unrealized (losses) – before tax	(25)	(146)
Net unrealized gains / (losses) – before tax	16	(143)
Net unrealized gains / (losses) – after tax	15	(104)

1 Refer to Note 24c for more information on product type and fair value hierarchy categorization. Refer also to Note 10 and Note 23 for more information on expected credit loss measurement.

Note 15 Property, equipment and software

At historical cost less accumulated depreciation

USD million	Owned properties	Leased properties[5]	Leasehold improve-ments	IT hardware and communication equipment	Internally generated software	Purchased software	Other machines and equipment	Projects in progress	2019	2018
Historical cost										
Balance at the end of the previous year	7,031		3,042	1,002	4,879	303	769	1,076	18,102	17,705
Adjustment from adoption of IFRS 16	(20)	3,299		(15)			0		3,264	
Balance at the beginning of the year	7,012	3,299	3,042	987	4,879	303	769	1,076	21,365	17,705
Additions	14	337	18	85	96	9	22	1,158	1,740	1,484
Disposals / write-offs[1]	(9)	(21)	(312)	(108)	(28)	(10)	(66)	0	(554)	(726)
Reclassifications	(135)	0	158	(3)	863	2	39	(1,315)	(391)[4]	(195)
Foreign currency translation	106	15	10	2	7	(1)	4	25	169	(166)
Balance at the end of the year	6,988	3,630	2,917	963	5,817	302	768	943	22,329	18,102
Accumulated depreciation										
Balance at the end of the previous year	4,132		1,842	733	2,161	209	546		9,623	9,514
Adjustment from adoption of IFRS 16	(1)	16		(15)			0		0	
Balance at the beginning of the year	4,131	16	1,842	719	2,161	209	546	0	9,623	9,514
Depreciation	141	463	184	98	565	33	58	0	1,542	984
Impairment[2]	1	2	1	0	27	2	0	0	34	67
Disposals / write-offs[1]	(9)	(2)	(310)	(108)	(28)	(10)	(66)	0	(533)	(730)
Reclassifications	(256)	0	3	0	5	0	0	0	(248)[4]	(124)
Foreign currency translation	66	3	9	1	5	(1)	3	0	86	(88)
Balance at the end of the year	4,074	481	1,729	710	2,735	233	541	0	10,503	9,623
Net book value										
Net book value at the end of the previous year	2,900	0	1,200	269	2,718	93	223	1,076	8,479	8,191
Net book value at the beginning of the year	2,881	3,284	1,200	268	2,718	93	223	1,076	11,742	8,191
Net book value at the end of the year	2,914	3,149	1,188	254	3,082	69	227	943[3]	11,826	8,479

1 Includes write-offs of fully depreciated assets. 2 Impairment charges recorded in 2019 generally relate to assets that are no longer used for which the recoverable amount based on a fair value approach was determined to be zero. 3 Consists of USD 744 million related to Internally generated software, USD 101 million related to Owned properties and USD 98 million related to Leasehold improvements. 4 Reflects reclassifications to Properties held for sale. 5 Represents right-of-use assets recognized by UBS AG as lessee. Includes immaterial leased IT equipment. The total cash outflow for leases during the year was USD 614 million. Interest expense on lease liabilities is included within Interest expense from financial instruments measured at amortized cost and Lease liabilities are included within Other financial liabilities measured at amortized cost. Refer to Notes 3 and 22a, respectively. Also refer to Note 1 for more information about the nature of UBS's leasing activities.

Introduction

UBS AG performs an impairment test on its goodwill assets on an annual basis or when indicators of impairment exist.

UBS AG considers Asset Management and the Investment Bank, as they are reported in Note 2a, as separate cash-generating units, as that is the level at which the performance of investments (and the related goodwill) is reviewed and assessed by management. The goodwill for Global Wealth Management is separately monitored, and therefore separately considered for impairment, at the level of the two former business divisions Wealth Management and Wealth Management Americas. These business divisions were integrated in 2018 and are referred to in this Note as Global Wealth Management Americas and Global Wealth Management ex Americas.

The impairment test is performed for each cash-generating unit to which goodwill is allocated by comparing the recoverable amount, based on its value-in-use, with the carrying amount of the respective cash-generating unit. An impairment charge is recognized if the carrying amount exceeds the recoverable amount.

As of 31 December 2019, total goodwill recognized on the balance sheet was USD 6.3 billion, of which USD 3.7 billion was carried by the Global Wealth Management Americas cash-generating unit, USD 1.2 billion was carried by the Global Wealth Management ex Americas cash-generating unit and USD 1.4 billion was carried by Asset Management. Based on the impairment testing methodology described below, UBS AG concluded that the goodwill balances as of 31 December 2019 allocated to these cash-generating units are not impaired.

Impairment of the Investment Bank goodwill

UBS AG is continuing to realign its Investment Bank and execute on a number of strategic initiatives to drive profitable growth. As a consequence, IAS 36, *Impairment of Assets*, requires UBS AG to give consideration to the range of possible forecast cash flows and uncertainties in macroeconomic factors that currently exist when determining the recoverability of goodwill in the Investment Bank. Following this, UBS AG estimated a recoverable amount for the Investment Bank cash-generating unit of USD 11.7 billion. As this was lower than the carrying amount of the Investment Bank cash-generating unit of USD 12.1 billion (actual attributed equity as of 31 December 2019), UBS AG wrote down the goodwill previously recognized by the Investment Bank (USD 110 million) and recognized that charge in the income statement within *Amortization and impairment of goodwill and intangible assets*.

UBS AG also reviewed intangible assets, property, equipment and software assets, allocated to the Investment Bank. Overall, UBS AG confirmed that no further impairment charges were required, with the fair value of such assets (generally determined using a cost replacement approach) being equal to or higher than their respective carrying amounts.

Methodology for goodwill impairment testing

The recoverable amounts are determined using a discounted cash flow model, which has been adapted to use inputs that consider features of the banking business and its regulatory environment. The recoverable amount of a cash-generating unit is the sum of the discounted earnings attributable to shareholders from the first three forecast years and the terminal value, adjusted for the effect of the capital assumed to be needed over the next three years and to support growth beyond this period. The terminal value, which covers all periods beyond the third year, is calculated on the basis of the forecast of third-year profit, the discount rate and the long-term growth rate, as well as the implied perpetual capital growth.

The carrying amount for each cash-generating unit is determined by reference to the Group's equity attribution framework. Within this framework, which is described in the "Capital management" section of this report, UBS attributes equity to the businesses on the basis of their risk-weighted assets and leverage ratio denominator, their goodwill and intangible assets as well as equity directly associated with activity that Corporate Center – Group Treasury manages centrally on behalf of the business divisions. The framework is primarily used for purposes of measuring the performance of the businesses and includes certain management assumptions. Attributed equity equals the capital that a cash-generating unit requires to conduct its business and is currently considered a reasonable approximation of the carrying amount of the cash-generating units. The attributed equity methodology is aligned with the business planning process, the inputs from which are used in calculating the recoverable amounts of the respective cash-generating unit.

→ **Refer to the "Capital management" section of this report for more information about the equity attribution framework**

Assumptions

Valuation parameters used within UBS AG's impairment test model are linked to external market information, where applicable. The model used to determine the recoverable amount is most sensitive to changes in the forecast earnings available to shareholders in years one to three, to changes in the discount rates and to changes in the long-term growth rate. The applied long-term growth rate is based on long-term economic growth rates for different regions worldwide. Earnings available to shareholders are estimated on the basis of forecast results, which are part of the business plan approved by the Board of Directors.

The discount rates are determined by applying a capital asset pricing model-based approach, as well as considering quantitative and qualitative inputs from both internal and external analysts and the view of management.

Note 16 Goodwill and intangible assets (continued)

In addition, they take into account regional differences in risk-free rates, at the level of individual cash-generating units. Consistently, long-term growth rates are determined based on nominal or real GDP growth rate forecasts, depending on the region.

Key assumptions used to determine the recoverable amounts of each cash-generating unit are tested for sensitivity by applying a reasonably possible change to those assumptions. Forecast earnings available to shareholders were changed by 20%, the discount rates were changed by 1.5 percentage points and the long-term growth rates were changed by 0.75 percentage points. Under all scenarios, reasonably possible changes in key assumptions did not result in an impairment of goodwill or intangible balances reported by Global Wealth Management Americas, Global Wealth Management ex Americas and Asset Management.

If the estimated earnings and other assumptions in future periods deviate from the current outlook, the value of goodwill attributable to Global Wealth Management Americas, Global Wealth Management ex Americas and Asset Management may become impaired in the future, giving rise to losses in the income statement. Recognition of any impairment of goodwill would reduce IFRS equity and net profit. It would not affect cash flows and, as goodwill is required to be deducted from capital under the Basel III capital framework, no effect would be expected on UBS AG's capital ratios.

Discount and growth rates

	Discount rates		Growth rates	
In %	31.12.19	31.12.18	31.12.19	31.12.18
Global Wealth Management Americas	9.5	9.5	4.2	3.2
Global Wealth Management ex Americas	8.5	8.5	3.4	3.0
Asset Management	9.0	9.0	3.0	2.7
Investment Bank	11.0	11.0	4.0	3.5

	Goodwill	Intangible assets				
USD million	Total	Infrastructure[1]	Customer relationships, contractual rights and other	Total	2019	2018
Historical cost						
Balance at the beginning of the year	6,392	760	865	1,625	8,018	7,888
Additions	0		11	11	11	270
Disposals	(1)		(10)	(10)	(11)	(45)
Write-offs	0		(75)	(75)	(75)	(7)
Foreign currency translation	(9)		(3)	(3)	(12)	(88)
Balance at the end of the year	6,382	760	788	1,548	7,930	8,018
Accumulated amortization and impairment						
Balance at the beginning of the year		691	679	1,371	1,371	1,325
Amortization		38	27	65	65	62
Impairment[2]	110		0	0	110	4
Disposals			(8)	(8)	(8)	(1)
Write-offs			(75)	(75)	(75)	(7)
Foreign currency translation			(2)	(2)	(2)	(12)
Balance at the end of the year	110	730	621	1,351	1,461	1,371
Net book value at the end of the year	6,272	30	167	197	6,469	6,647

1 Consists of the branch network intangible asset recognized in connection with the acquisition of PaineWebber Group, Inc. 2 Impairment charges recorded in 2019 and 2018 relate to assets for which the recoverable amount was determined considering their value-in-use (recoverable amount of the impaired intangible assets in 2018 was USD 18 million, recoverable amount for the Investment Bank cash-generating unit in 2019 was USD 11.7 billion).

Note 16 Goodwill and intangible assets (continued)

The table below presents goodwill and intangible assets by cash-generating unit for the year ended 31 December 2019.

USD million	Global Wealth Management Americas	Global Wealth Management ex Americas	Asset Management	Investment Bank	Corporate Center	Total
Goodwill						
Balance at the beginning of the year	3,721	1,206	1,354	112		6,392
Additions					0	0
Disposals		(1)				(1)
Impairment				(110)		(110)
Foreign currency translation	(2)	(6)	1	(2)	0	(9)
Balance at the end of the year	3,719	1,198	1,354	0	0	6,272
Intangible assets						
Balance at the beginning of the year	138	104	0	11	1	254
Additions / transfers	1			0	10	11
Disposals		(2)		0		(2)
Amortization	(45)	(12)		(5)	(4)	(65)
Impairment		0		0		0
Foreign currency translation	(1)	1	0	0	0	(1)
Balance at the end of the year	92	92	0	5	7	197

The table below presents estimated aggregated amortization expenses for intangible assets.

USD million	Intangible assets
Estimated, aggregated amortization expenses for:	
2020	53
2021	22
2022	18
2023	17
2024	13
Thereafter	70
Not amortized due to indefinite useful life	2
Total	197

Note 17 Other assets

a) Other financial assets measured at amortized cost

USD million	31.12.19	31.12.18
Debt securities	14,141	13,562
of which: government bills / bonds	*8,492*	*8,778*
Loans to financial advisors[1]	2,877	3,291
Fee- and commission-related receivables	1,520	1,644
Finance lease receivables[2]	1,444	1,091
Settlement and clearing accounts	587	1,039
Accrued interest income	742	700
Other	1,701	1,310
Total other financial assets measured at amortized cost	23,012	22,637

1 Related to financial advisors in the US and Canada. 2 Upon adoption of IFRS 16 on 1 January 2019, Finance lease receivables increased by USD 176 million. Refer to Note 1 for more information.

b) Other non-financial assets

USD million	31.12.19	31.12.18
Precious metals and other physical commodities	4,597	4,298
Bail deposit[1]	1,293	1,312
Prepaid expenses	687	731
VAT and other tax receivables	436	282
Properties and other non-current assets held for sale	199	82
Other	335	358
Total other non-financial assets	7,547	7,062

1 Refer to item 1 in Note 21b for more information.

Note 18 Amounts due to banks, customer deposits, and funding from UBS Group AG and its subsidiaries

a) Amounts due to banks and customer deposits

USD million	31.12.19	31.12.18
Amounts due to banks	6,570	10,962
Customer deposits	450,591	421,986
of which: demand deposits	*176,972*	*182,642*
of which: retail savings / deposits	*168,581*	*165,790*
of which: time deposits	*63,659*	*54,998*
of which: fiduciary deposits	*41,378*	*18,556*
Total amounts due to banks and customer deposits	457,161	432,948

b) Funding from UBS Group AG and its subsidiaries

USD million	31.12.19	31.12.18
Senior unsecured debt that contributes to total loss-absorbing capacity (TLAC)	30,105	29,988
Senior unsecured debt other than TLAC	3,389	1,031
High-trigger loss-absorbing additional tier 1 capital instruments	11,958	7,805
Low-trigger loss-absorbing additional tier 1 capital instruments	2,415	2,378
Total[1,2]	47,866	41,202

1 All balances in 2019 are against UBS Group AG as counterparty. Prior year balances were against UBS Group Funding (Switzerland) AG as counterparty. 2 UBS AG has also recognized funding from UBS Group AG and its subsidiaries that is designated at fair value. Refer to Note 22b for more information.

Note 19 Debt issued designated at fair value

USD million	31.12.19	31.12.18
Issued debt instruments		
Equity-linked[1]	41,722	34,392
Rates-linked	16,318	12,073
Credit-linked	1,916	3,282
Fixed-rate	4,636	5,099
Commodity-linked	1,567	1,785
Other	432	401
Total debt issued designated at fair value	66,592	57,031
of which: issued by UBS AG with original maturity greater than one year[2]	*51,031*	*40,289*
of which: life-to-date own credit (gain) / loss	*82*	*(270)*

1 Includes investment fund unit-linked instruments issued. 2 Issued by the legal entity UBS AG. Based on original contractual maturity without considering any early redemption features. More than 99% of the balance as of 31 December 2019 was unsecured (31 December 2018: more than 99% of the balance was unsecured).

As of 31 December 2019 and 31 December 2018, the contractual redemption amount at maturity of debt issued designated at fair value through profit or loss was not materially different from the carrying amount.

The table below shows the residual contractual maturity of the carrying amount of debt issued designated at fair value, split between fixed-rate and floating-rate instruments based on the contractual terms, and does not consider any early redemption features. Interest rate ranges for future interest payments related to debt issued designated at fair value have not been included in the table below as a majority of the debt instruments issued are structured products, and therefore the future interest payments are highly dependent upon the embedded derivative and prevailing market conditions at the point in time that each interest payment is made.

→ **Refer to Note 27 for maturity information on an undiscounted cash flow basis**

Contractual maturity of carrying amount

USD million	2020	2021	2022	2023	2024	2025–2029	Thereafter	Total 31.12.19	Total 31.12.18
UBS AG[1]									
Non-subordinated debt									
Fixed-rate	3,648	1,778	755	288	334	386	3,178	10,368	11,807
Floating-rate	21,547	10,748	3,435	2,608	3,290	8,109	5,562	55,299	43,562
Subtotal	25,195	12,526	4,190	2,897	3,624	8,495	8,740	65,668	55,370
Other subsidiaries[2]									
Non-subordinated debt									
Fixed-rate	48	92	6	0	0	345	29	520	1,230
Floating-rate	102	43	197	27	0	0	35	404	431
Subtotal	150	134	203	27	0	345	64	924	1,662
Total	25,345	12,661	4,394	2,924	3,624	8,840	8,804	66,592	57,031

1 Comprises instruments issued by the legal entity UBS AG. 2 Comprises instruments issued by subsidiaries of UBS AG.

Note 20 Debt issued measured at amortized cost

USD million	31.12.19	31.12.18
Certificates of deposit	5,190	7,980
Commercial paper	14,413	27,514
Other short-term debt	2,235	3,531
Short-term debt[1]	21,837	39,025
Senior unsecured debt	22,356	32,135
of which: issued by UBS AG with original maturity greater than one year[2]	*22,349*	*32,133*
Covered bonds	2,633	3,947
Subordinated debt	7,431	7,511
of which: low-trigger loss-absorbing tier 2 capital instruments	*6,892*	*6,808*
of which: non-Basel III-compliant tier 2 capital instruments	*540*	*703*
Debt issued through the Swiss central mortgage institutions	8,574	8,569
Other long-term debt	4	58
of which: issued by UBS AG with original maturity greater than one year[2]	*0*	*52*
Long-term debt[3]	40,998	52,220
Total debt issued measured at amortized cost[4]	62,835	91,245

1 Debt with an original contractual maturity of less than one year. 2 Issued by the legal entity UBS AG. Based on original contractual maturity without considering any early redemption features. As of 31 December 2019, 100% of the balance was unsecured (31 December 2018: 100% of the balance was unsecured). 3 Debt with an original maturity greater than or equal to one year. The classification of debt issued into short-term and long-term does not consider any early redemption features. 4 Net of bifurcated embedded derivatives, the fair value of which was not material for the periods presented.

UBS AG uses interest rate and foreign exchange derivatives to manage the risks inherent in certain debt instruments held at amortized cost. In certain cases, UBS AG applies hedge accounting for interest rate risk as discussed in Note 1a item 3j and Note 28. As a result of applying hedge accounting, the life-to-date adjustment to the carrying amount of debt issued was an increase of USD 574 million as of 31 December 2019 and an increase of USD 282 million as of 31 December 2018, reflecting changes in fair value due to interest rate movements.

Note 20 Debt issued measured at amortized cost (continued)

Subordinated debt consists of unsecured debt obligations that are contractually subordinated in right of payment to all other present and future non-subordinated obligations of the respective issuing entity. All of the subordinated debt instruments outstanding as of 31 December 2019 pay a fixed rate of interest.

The table below shows the residual contractual maturity of the carrying amount of debt issued, split between fixed-rate and floating-rate based on the contractual terms, and does not consider any early redemption features. The effects from interest rate swaps, which are used to hedge various fixed-rate debt issuances by changing the repricing characteristics into those similar to floating-rate debt, are also not considered in the table below.

→ **Refer to Note 27 for maturity information on an undiscounted cash flow basis**

Contractual maturity of carrying amount

USD million	2020	2021	2022	2023	2024	2025–2029	Thereafter	Total 31.12.19	Total 31.12.18
UBS AG[1]									
Non-subordinated debt									
Fixed-rate	24,334	3,978	2,618	1,621	0	0	1,145	33,696	40,108
Floating-rate	10,819	1,932	0	368	0	0	0	13,119	35,035
Subordinated debt									
Fixed-rate	0	0	2,007	0	2,597	2,827	0	7,431	7,511
Subtotal	35,153	5,910	4,626	1,989	2,597	2,827	1,145	54,247	82,654
Other subsidiaries[2]									
Non-subordinated debt									
Fixed-rate	758	1,029	851	951	1,013	3,327	660	8,588	8,590
Floating-rate	0	0	0	0	0	0	0	0	0
Subtotal	758	1,029	851	951	1,013	3,327	660	8,588	8,591
Total	35,911	6,939	5,477	2,940	3,610	6,154	1,805	62,835	91,245

1 Comprises debt issued by the legal entity UBS AG. 2 Comprises debt issued by subsidiaries of UBS AG.

Note 21 Provisions and contingent liabilities

a) Provisions

The table below presents an overview of total provisions.

USD million	31.12.19	31.12.18
Provisions other than provisions for expected credit losses	2,825	3,341
Provisions for expected credit losses	114	116
Total provisions	2,938	3,457

The following table presents additional information for provisions other than provisions for expected credit losses.

USD million	Operational risks[2]	Litigation, regulatory and similar matters[3]	Restructuring	Real estate	Employee benefits[6]	Other	Total 2019	Total 2018
Balance at the end of the previous year	45	2,827	215	122	55	77	3,341	3,130
Adjustment from adoption of IFRS 16[1]	0	0	(103)	(28)	0	0	(131)	0
Balance at the beginning of the year	45	2,827	112	94	55	77	3,209	3,130
Additions from acquired companies	0	0	0	0	0	0	0	2
Increase in provisions recognized in the income statement	13	258	87	4	6	8	376	1,117
Release of provisions recognized in the income statement	0	(81)	(19)	0	(7)	(12)	(119)	(301)
Provisions used in conformity with designated purpose	(15)	(518)	(83)	(7)	0	(9)	(632)	(587)
Reclassifications	0	0	0	0	0	(1)	(1)	0
Foreign currency translation / unwind of discount	(1)	(12)	1	1	0	1	(8)	(20)
Balance at the end of the year	41	2,475	99[4]	92[5]	54	64	2,825	3,341

1 Refer to Note 1 for more information. 2 Comprises provisions for losses resulting from security risks and transaction processing risks. 3 Comprises provisions for losses resulting from legal, liability and compliance risks. 4 Primarily consists of personnel-related restructuring provisions of USD 33 million as of 31 December 2019 (31 December 2018: USD 40 million) and provisions for onerous contracts of USD 61 million as of 31 December 2019 (31 December 2018: USD 170 million). 5 Consists of reinstatement costs for leasehold improvements of USD 82 million as of 31 December 2019 (31 December 2018: USD 83 million) and provisions for onerous contracts of USD 10 million as of 31 December 2019 (31 December 2018: USD 40 million). 6 Includes provisions for sabbatical and anniversary awards.

Restructuring provisions primarily relate to onerous contracts and severance payments. Onerous contracts for property are recognized when UBS AG is committed to pay for non-lease components, such as utilities, when a property is vacated or not fully recovered from sub-tenants. Severance-related provisions are used within a short time period, usually within six months, but potential changes in amount may be triggered when natural staff attrition reduces the number of people affected by a restructuring event and therefore the estimated costs.

Information about provisions and contingent liabilities in respect of litigation, regulatory and similar matters, as a class, is included in Note 21b. There are no material contingent liabilities associated with the other classes of provisions.

b) Litigation, regulatory and similar matters

UBS operates in a legal and regulatory environment that exposes it to significant litigation and similar risks arising from disputes and regulatory proceedings. As a result, UBS (which for purposes of this Note may refer to UBS AG and/or one or more of its subsidiaries, as applicable) is involved in various disputes and legal proceedings, including litigation, arbitration, and regulatory and criminal investigations.

Such matters are subject to many uncertainties, and the outcome and the timing of resolution are often difficult to predict, particularly in the earlier stages of a case. There are also situations where UBS may enter into a settlement agreement. This may occur in order to avoid the expense, management distraction or reputational implications of continuing to contest liability, even for those matters for which UBS believes it should be exonerated. The uncertainties inherent in all such matters affect the amount and timing of any potential outflows for both matters with respect to which provisions have been established and other contingent liabilities. UBS makes provisions for such matters brought against it when, in the opinion of management after seeking legal advice, it is more likely than not that UBS has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required, and the amount can be reliably estimated. Where these factors are otherwise satisfied, a provision may be established for claims that have not yet been asserted against UBS, but are nevertheless expected to be, based on UBS's experience with similar asserted claims. If any of those conditions is not met, such matters result in contingent liabilities. If the amount of an obligation cannot be reliably estimated, a liability exists that is not recognized even if an outflow of resources is probable. Accordingly, no provision is established even if the potential outflow of resources with respect to such matters could be significant. Developments relating to a matter that occur after the relevant reporting period, but prior to the issuance of financial statements, which affect management's assessment of the provision for such matter (because, for example, the developments provide evidence of conditions that existed at the end of the reporting period), are adjusting events after the reporting period under IAS 10 and must be recognized in the financial statements for the reporting period.

Specific litigation, regulatory and other matters are described below, including all such matters that management considers to be material and others that management believes to be of significance due to potential financial, reputational and other effects. The amount of damages claimed, the size of a transaction or other information is provided where available and appropriate in order to assist users in considering the magnitude of potential exposures.

Note 21 Provisions and contingent liabilities (continued)

In the case of certain matters below, we state that we have established a provision, and for the other matters, we make no such statement. When we make this statement and we expect disclosure of the amount of a provision to prejudice seriously our position with other parties in the matter because it would reveal what UBS believes to be the probable and reliably estimable outflow, we do not disclose that amount. In some cases we are subject to confidentiality obligations that preclude such disclosure. With respect to the matters for which we do not state whether we have established a provision, either (a) we have not established a provision, in which case the matter is treated as a contingent liability under the applicable accounting standard; or (b) we have established a provision but expect disclosure of that fact to prejudice seriously our position with other parties in the matter because it would reveal the fact that UBS believes an outflow of resources to be probable and reliably estimable.

With respect to certain litigation, regulatory and similar matters for which we have established provisions, we are able to estimate the expected timing of outflows. However, the aggregate amount of the expected outflows for those matters for which we are able to estimate expected timing is immaterial relative to our current and expected levels of liquidity over the relevant time periods.

The aggregate amount provisioned for litigation, regulatory and similar matters as a class is disclosed in the "Provisions" table in Note 21a above. It is not practicable to provide an aggregate estimate of liability for our litigation, regulatory and similar matters as a class of contingent liabilities. Doing so would require us to provide speculative legal assessments as to claims and proceedings that involve unique fact patterns or novel legal theories, that have not yet been initiated or are at early stages of adjudication, or as to which alleged damages have not been quantified by the claimants. Although we therefore cannot provide a numerical estimate of the future losses that could arise from litigation, regulatory and similar matters, we believe that the aggregate amount of possible future losses from this class that are more than remote substantially exceeds the level of current provisions.

Litigation, regulatory and similar matters may also result in non-monetary penalties and consequences. For example, the non-prosecution agreement described in item 5 of this Note, which we entered into with the US Department of Justice (DOJ), Criminal Division, Fraud Section in connection with our submissions of benchmark interest rates, including, among others, the British Bankers' Association London Interbank Offered Rate (LIBOR), was terminated by the DOJ based on its determination that we had committed a US crime in relation to foreign exchange matters. As a consequence, UBS AG pleaded guilty to one count of wire fraud for conduct in the LIBOR matter, paid a fine and was subject to probation, which ended in early January 2020.

A guilty plea to, or conviction of, a crime could have material consequences for UBS. Resolution of regulatory proceedings may require us to obtain waivers of regulatory disqualifications to maintain certain operations, may entitle regulatory authorities to limit, suspend or terminate licenses and regulatory authorizations, and may permit financial market utilities to limit, suspend or terminate our participation in such utilities. Failure to obtain such waivers, or any limitation, suspension or termination of licenses, authorizations or participations, could have material consequences for UBS.

The risk of loss associated with litigation, regulatory and similar matters is a component of operational risk for purposes of determining our capital requirements. Information concerning our capital requirements and the calculation of operational risk for this purpose is included in the "Capital management" section of this report.

Provisions for litigation, regulatory and similar matters by business division and in Corporate Center[1]

USD million	Global Wealth Manage-ment	Personal & Corporate Banking	Asset Manage-ment	Investment Bank	Corporate Center	Total 2019	Total 2018
Balance at the beginning of the year	1,003	117	0	269	1,438	2,827	2,508
Increase in provisions recognized in the income statement	188	1	0	60	10	258	905
Release of provisions recognized in the income statement	(49)	0	0	(6)	(27)	(81)	(220)
Provisions used in conformity with designated purpose	(350)	(4)	0	(66)	(97)	(518)	(350)
Foreign currency translation / unwind of discount	(10)	(1)	0	(2)	0	(12)	(16)
Balance at the end of the year	782	113	0	255	1,325	2,475	2,827

1 Provisions, if any, for the matters described in this Note are recorded in Global Wealth Management (items 3, item 4 and item 7) and Corporate Center (item 2). Provisions, if any, for the matters described in items 1 and 6 of this disclosure are allocated between Global Wealth Management and Personal & Corporate Banking, and provisions, if any, for the matters described in this disclosure in item 5 are allocated between the Investment Bank and Corporate Center.

1. Inquiries regarding cross-border wealth management businesses

Tax and regulatory authorities in a number of countries have made inquiries, served requests for information or examined employees located in their respective jurisdictions relating to the cross-border wealth management services provided by UBS and other financial institutions. It is possible that the implementation of automatic tax information exchange and other measures relating to cross-border provision of financial services could give rise to further inquiries in the future. UBS has received disclosure orders from the Swiss Federal Tax Administration (FTA) to transfer information based on requests for international administrative assistance in tax matters. The requests concern a number of UBS account numbers pertaining to current and former clients and are based on data from 2006 and 2008. UBS has taken steps to inform affected clients about the administrative assistance proceedings and their procedural rights, including the right to appeal. The requests are based on data received from the German authorities, who seized certain data related to UBS clients booked in Switzerland during their investigations and have apparently shared this data with other European countries. UBS expects additional countries to file similar requests.

The Swiss Federal Administrative Court ruled in 2016 that, in the administrative assistance proceedings related to a French bulk request, UBS has the right to appeal all final FTA client data disclosure orders. On 30 July 2018, the Swiss Federal Administrative Court granted UBS's appeal by holding the French administrative assistance request inadmissible. The FTA filed a final appeal with the Swiss Federal Supreme Court. On 26 July 2019, the Supreme Court reversed the decision of the Federal Administrative Court. In December 2019, the court released its written decision. The decision requires the FTA to obtain confirmation from the French authorities that transmitted data will be used only for the purposes stated in their request before transmitting any data. The stated purpose of the original request was to obtain information relating to taxes owed by account holders. Accordingly, any information transferred to the French authorities must not be passed to criminal authorities or used in connection with the ongoing case against UBS discussed in this item.

Since 2013, UBS (France) S.A., UBS AG and certain former employees have been under investigation in France for alleged complicity in unlawful solicitation of clients on French territory, regarding the laundering of proceeds of tax fraud, and banking and financial solicitation by unauthorized persons. In connection with this investigation, the investigating judges ordered UBS AG to provide bail ("caution") of EUR 1.1 billion and UBS (France) S.A. to post bail of EUR 40 million, which was reduced on appeal to EUR 10 million.

A trial in the court of first instance took place from 8 October 2018 until 15 November 2018. On 20 February 2019, the court announced a verdict finding UBS AG guilty of unlawful solicitation of clients on French territory and aggravated laundering of the proceeds of tax fraud, and UBS (France) S.A. guilty of aiding and abetting unlawful solicitation and laundering the proceeds of tax fraud. The court imposed fines aggregating EUR 3.7 billion on UBS AG and UBS (France) S.A. and awarded EUR 800 million of civil damages to the French state. UBS has appealed the decision. Under French law, the judgment is suspended while the appeal is pending. The trial in the Court of Appeal is scheduled for June 2020. The Court of Appeal will retry the case de novo as to both the law and the facts, and the fines and penalties can be greater than or less than those imposed by the court of first instance. A subsequent appeal to the Cour de Cassation, France's highest court, is possible with respect to questions of law.

UBS believes that based on both the law and the facts the judgment of the court of first instance should be reversed. UBS believes it followed its obligations under Swiss and French law as well as the European Savings Tax Directive. Even assuming liability, which it contests, UBS believes the penalties and damage amounts awarded greatly exceed the amounts that could be supported by the law and the facts. In particular, UBS believes the court incorrectly based the penalty on the total regularized assets rather than on any unpaid taxes on those assets for which a fraud has been characterized and further incorrectly awarded damages based on costs that were not proven by the civil party. Notwithstanding that UBS believes it should be acquitted, our balance sheet at 31 December 2019 reflected provisions with respect to this matter in an amount of EUR 450 million (USD 505 million at 31 December 2019). The wide range of possible outcomes in this case contributes to a high degree of estimation uncertainty. The provision reflected on our balance sheet at 31 December 2019 reflects our best estimate of possible financial implications, although it is reasonably possible that actual penalties and civil damages could exceed the provision amount.

In 2016, UBS was notified by the Belgian investigating judge that it is under formal investigation ("inculpé") regarding the laundering of proceeds of tax fraud, of banking and financial solicitation by unauthorized persons, and of serious tax fraud. In 2018, tax authorities and a prosecutor's office in Italy asserted that UBS is potentially liable for taxes and penalties as a result of its activities in Italy from 2012 to 2017. In June 2019, UBS entered into a settlement agreement with the Italian tax authorities under which it paid EUR 101 million to resolve the claims asserted by the authority related to UBS AG's potential permanent establishment in Italy. In October 2019, the Judge of Preliminary Investigations of the Milan Court approved an agreement with the Milan prosecutor under Article 63 of Italian Administrative Law 231 under which UBS AG, UBS Switzerland AG and UBS Monaco have paid an aggregate of EUR 10.3 million to resolve claims premised on the alleged inadequacy of historical internal controls. No admission of wrongdoing was required in connection with this resolution.

Note 21 Provisions and contingent liabilities (continued)

Our balance sheet at 31 December 2019 reflected provisions with respect to matters described in this item 1 in an amount that UBS believes to be appropriate under the applicable accounting standard. As in the case of other matters for which we have established provisions, the future outflow of resources in respect of such matters cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provision that we have recognized.

2. Claims related to sales of residential mortgage-backed securities and mortgages

From 2002 through 2007, prior to the crisis in the US residential loan market, UBS was a substantial issuer and underwriter of US residential mortgage-backed securities (RMBS) and was a purchaser and seller of US residential mortgages. A subsidiary of UBS, UBS Real Estate Securities Inc. (UBS RESI), acquired pools of residential mortgage loans from originators and (through an affiliate) deposited them into securitization trusts. In this manner, from 2004 through 2007, UBS RESI sponsored approximately USD 80 billion in RMBS, based on the original principal balances of the securities issued.

UBS RESI also sold pools of loans acquired from originators to third-party purchasers. These whole loan sales during the period 2004 through 2007 totaled approximately USD 19 billion in original principal balance.

UBS was not a significant originator of US residential loans. A branch of UBS originated approximately USD 1.5 billion in US residential mortgage loans during the period in which it was active from 2006 to 2008 and securitized less than half of these loans.

Lawsuits related to contractual representations and warranties concerning mortgages and RMBS: When UBS acted as an RMBS sponsor or mortgage seller, it generally made certain representations relating to the characteristics of the underlying loans. In the event of a material breach of these representations, UBS was in certain circumstances contractually obligated to repurchase the loans to which the representations related or to indemnify certain parties against losses. In 2012, certain RMBS trusts filed an action in the US District Court for the Southern District of New York seeking to enforce UBS RESI's obligation to repurchase loans in the collateral pools for three RMBS securitizations issued and underwritten by UBS with an original principal balance of approximately USD 2 billion. In July 2018, UBS and the trustee entered into an agreement under which UBS will pay USD 850 million to resolve this matter. A significant portion of this amount will be borne by other parties that indemnified UBS. In January 2020, the settlement was approved by the court. Proceedings to determine how the settlement funds will be distributed to RMBS holders are ongoing. After giving effect to this settlement, UBS considers claims relating to substantially all loan repurchase demands to be resolved and believes that new demands to repurchase US residential mortgage loans are time-barred under a decision rendered by the New York Court of Appeals.

Mortgage-related regulatory matters: Since 2014, the US Attorney's Office for the Eastern District of New York has sought information from UBS pursuant to the Financial Institutions Reform, Recovery and Enforcement Act of 1989 (FIRREA), related to UBS's RMBS business from 2005 through 2007. On 8 November 2018, the DOJ filed a civil complaint in the District Court for the Eastern District of New York. The complaint seeks unspecified civil monetary penalties under FIRREA related to UBS's issuance, underwriting and sale of 40 RMBS transactions in 2006 and 2007. UBS moved to dismiss the civil complaint on 6 February 2019. On 10 December 2019, the district court denied UBS's motion to dismiss.

Our balance sheet at 31 December 2019 reflected a provision with respect to matters described in this item 2 in an amount that UBS believes to be appropriate under the applicable accounting standard. As in the case of other matters for which we have established provisions, the future outflow of resources in respect of this matter cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provision that we have recognized.

3. Madoff

In relation to the Bernard L. Madoff Investment Securities LLC (BMIS) investment fraud, UBS AG, UBS (Luxembourg) S.A. (now UBS Europe SE, Luxembourg branch) and certain other UBS subsidiaries have been subject to inquiries by a number of regulators, including the Swiss Financial Market Supervisory Authority (FINMA) and the Luxembourg Commission de Surveillance du Secteur Financier. Those inquiries concerned two third-party funds established under Luxembourg law, substantially all assets of which were with BMIS, as well as certain funds established in offshore jurisdictions with either direct or indirect exposure to BMIS. These funds faced severe losses, and the Luxembourg funds are in liquidation. The documentation establishing both funds identifies UBS entities in various roles, including custodian, administrator, manager, distributor and promoter, and indicates that UBS employees serve as board members.

In 2009 and 2010, the liquidators of the two Luxembourg funds filed claims against UBS entities, non-UBS entities and certain individuals, including current and former UBS employees, seeking amounts totaling approximately EUR 2.1 billion, which includes amounts that the funds may be held liable to pay the trustee for the liquidation of BMIS (BMIS Trustee).

A large number of alleged beneficiaries have filed claims against UBS entities (and non-UBS entities) for purported losses relating to the Madoff fraud. The majority of these cases have been filed in Luxembourg, where decisions that the claims in eight test cases were inadmissible have been affirmed by the Luxembourg Court of Appeal, and the Luxembourg Supreme Court has dismissed a further appeal in one of the test cases.

In the US, the BMIS Trustee filed claims against UBS entities, among others, in relation to the two Luxembourg funds and one of the offshore funds. The total amount claimed against all defendants in these actions was not less than USD 2 billion. In 2014, the US Supreme Court rejected the BMIS Trustee's motion for leave to appeal decisions dismissing all claims except those for the recovery of approximately USD 125 million of payments alleged to be fraudulent conveyances and preference payments. In 2016, the bankruptcy court dismissed these claims against the UBS entities. In February 2019, the Court of Appeals reversed the dismissal of the BMIS Trustee's remaining claims. In August 2019, the defendants, including UBS, filed a petition to the US Supreme Court requesting that it review the Court of Appeals' decision. The bankruptcy proceedings have been stayed pending a decision with respect to the defendants' petition.

4. Puerto Rico

Declines since 2013 in the market prices of Puerto Rico municipal bonds and of closed-end funds (funds) that are sole-managed and co-managed by UBS Trust Company of Puerto Rico and distributed by UBS Financial Services Incorporated of Puerto Rico (UBS PR) have led to multiple regulatory inquiries, as well as customer complaints and arbitrations with aggregate claimed damages of USD 3.4 billion, of which claims with aggregate claimed damages of USD 2.4 billion have been resolved through settlements, arbitration or withdrawal of the claim. The claims have been filed by clients in Puerto Rico who own the funds or Puerto Rico municipal bonds and/or who used their UBS account assets as collateral for UBS non-purpose loans; customer complaint and arbitration allegations include fraud, misrepresentation and unsuitability of the funds and of the loans.

A shareholder derivative action was filed in 2014 against various UBS entities and current and certain former directors of the funds, alleging hundreds of millions of US dollars in losses in the funds. In 2015, defendants' motion to dismiss was denied and a request for permission to appeal that ruling was denied by the Puerto Rico Supreme Court. In 2014, a federal class action complaint also was filed against various UBS entities, certain members of UBS PR senior management and the co-manager of certain of the funds, seeking damages for investor losses in the funds during the period from May 2008 through May 2014. Following denial of the plaintiffs' motion for class certification, the case was dismissed in October 2018.

In 2014 and 2015, UBS entered into settlements with the Office of the Commissioner of Financial Institutions for the Commonwealth of Puerto Rico, the US Securities and Exchange Commission (SEC) and the Financial Industry Regulatory Authority in relation to their examinations of UBS's operations.

In 2011, a purported derivative action was filed on behalf of the Employee Retirement System of the Commonwealth of Puerto Rico (System) against over 40 defendants, including UBS PR, which was named in connection with its underwriting and consulting services. Plaintiffs alleged that defendants violated their purported fiduciary duties and contractual obligations in connection with the issuance and underwriting of USD 3 billion of bonds by the System in 2008 and sought damages of over USD 800 million. In 2016, the court granted the System's request to join the action as a plaintiff, but ordered that plaintiffs must file an amended complaint. In 2017, the court denied defendants' motion to dismiss the amended complaint.

Beginning in 2015, and continuing through 2017, certain agencies and public corporations of the Commonwealth of Puerto Rico (Commonwealth) defaulted on certain interest payments on Puerto Rico bonds. In 2016, US federal legislation created an oversight board with power to oversee Puerto Rico's finances and to restructure its debt. The oversight board has imposed a stay on the exercise of certain creditors' rights. In 2017, the oversight board placed certain of the bonds into a bankruptcy-like proceeding under the supervision of a Federal District Judge. These events, further defaults or any further legislative action to create a legal means of restructuring Commonwealth obligations or to impose additional oversight on the Commonwealth's finances, or any restructuring of the Commonwealth's obligations, may increase the number of claims against UBS concerning Puerto Rico securities, as well as potential damages sought.

In May 2019, the oversight board filed complaints in Puerto Rico federal district court bringing claims against financial, legal and accounting firms that had participated in Puerto Rico municipal bond offerings, including UBS, seeking a return of underwriting and swap fees paid in connection with those offerings. UBS estimates that it received approximately USD 125 million in fees in the relevant offerings.

In August 2019 and February 2020, three US insurance companies that insured issues of Puerto Rico municipal bonds sued UBS and seven other underwriters of Puerto Rico municipal bonds. The two actions seek recovery of an aggregate of USD 955 million in damages from the defendants. The plaintiffs in these cases claim that defendants failed to reasonably investigate financial statements in the offering materials for the insured Puerto Rico bonds issued between 2002 and 2007, which plaintiffs argue they relied upon in agreeing to insure the bonds notwithstanding that they had no contractual relationship with the underwriters.

Note 21 Provisions and contingent liabilities (continued)

Our balance sheet at 31 December 2019 reflected provisions with respect to matters described in this item 4 in amounts that UBS believes to be appropriate under the applicable accounting standard. As in the case of other matters for which we have established provisions, the future outflow of resources in respect of such matters cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provisions that we have recognized.

5. Foreign exchange, LIBOR and benchmark rates, and other trading practices

Foreign exchange-related regulatory matters: Beginning in 2013, numerous authorities commenced investigations concerning possible manipulation of foreign exchange markets and precious metals prices. In 2014 and 2015, UBS reached settlements with the UK Financial Conduct Authority (FCA) and the US Commodity Futures Trading Commission (CFTC) in connection with their foreign exchange investigations, FINMA issued an order concluding its formal proceedings relating to UBS's foreign exchange and precious metals businesses, and the Board of Governors of the Federal Reserve System (Federal Reserve Board) and the Connecticut Department of Banking issued a Cease and Desist Order and assessed monetary penalties against UBS AG. In 2015, the DOJ's Criminal Division terminated the 2012 non-prosecution agreement with UBS AG related to UBS's submissions of benchmark interest rates, and UBS AG pleaded guilty to one count of wire fraud, paid a fine and was subject to probation, which ended in early January 2020. In 2019 the European Commission announced two decisions with respect to foreign exchange trading. UBS was granted immunity by the European Commission in these matters and therefore was not fined. UBS has ongoing obligations to cooperate with these authorities and to undertake certain remediation measures. UBS has also been granted conditional immunity by the Antitrust Division of the DOJ and by authorities in other jurisdictions in connection with potential competition law violations relating to foreign exchange and precious metals businesses. Investigations relating to foreign exchange matters by certain authorities remain ongoing notwithstanding these resolutions.

Foreign exchange-related civil litigation: Putative class actions have been filed since 2013 in US federal courts and in other jurisdictions against UBS and other banks on behalf of putative classes of persons who engaged in foreign currency transactions with any of the defendant banks. UBS has resolved US federal court class actions relating to foreign currency transactions with the defendant banks and persons who transacted in foreign exchange futures contracts and options on such futures under a settlement agreement that provides for UBS to pay an aggregate of USD 141 million and provide cooperation to the settlement classes. Certain class members have excluded themselves from that settlement and have filed individual actions in US and English courts against UBS and other banks, alleging violations of US and European competition laws and unjust enrichment.

In 2015, a putative class action was filed in federal court against UBS and numerous other banks on behalf of persons and businesses in the US who directly purchased foreign currency from the defendants and alleged co-conspirators for their own end use. In March 2017, the court granted UBS's (and the other banks') motions to dismiss the complaint. The plaintiffs filed an amended complaint in August 2017. In March 2018, the court denied the defendants' motions to dismiss the amended complaint.

In 2017, two putative class actions were filed in federal court in New York against UBS and numerous other banks on behalf of persons and entities who had indirectly purchased foreign exchange instruments from a defendant or co-conspirator in the US, and a consolidated complaint was filed in June 2017. In March 2018, the court dismissed the consolidated complaint. In October 2018, the court granted plaintiffs' motion seeking leave to file an amended complaint. In January 2020, UBS and 11 other banks agreed in principle with the plaintiffs to settle the class action for a total of USD 10 million. The settlement is subject to final documentation and court approval.

LIBOR and other benchmark-related regulatory matters: Numerous government agencies, including the SEC, the CFTC, the DOJ, the FCA, the UK Serious Fraud Office, the Monetary Authority of Singapore, the Hong Kong Monetary Authority, FINMA, various state attorneys general in the US and competition authorities in various jurisdictions, have conducted investigations regarding potential improper attempts by UBS, among others, to manipulate LIBOR and other benchmark rates at certain times. UBS reached settlements or otherwise concluded investigations relating to benchmark interest rates with the investigating authorities. UBS has ongoing obligations to cooperate with the authorities with whom we have reached resolutions and to undertake certain remediation measures with respect to benchmark interest rate submissions. UBS has been granted conditional leniency or conditional immunity from authorities in certain jurisdictions, including the Antitrust Division of the DOJ and the Swiss Competition Commission (WEKO), in connection with potential antitrust or competition law violations related to certain rates. However, UBS has not reached a final settlement with WEKO, as the Secretariat of WEKO has asserted that UBS does not qualify for full immunity.

LIBOR and other benchmark-related civil litigation: A number of putative class actions and other actions are pending in the federal courts in New York against UBS and numerous other banks on behalf of parties who transacted in certain interest rate benchmark-based derivatives. Also pending in the US and in other jurisdictions are a number of other actions asserting losses related to various products whose interest rates were linked to LIBOR and other benchmarks, including adjustable rate mortgages, preferred and debt securities, bonds pledged as collateral, loans, depository accounts, investments and other interest-bearing instruments. The complaints allege manipulation, through various means, of certain benchmark interest rates, including USD LIBOR, Euroyen TIBOR, Yen LIBOR, EURIBOR, CHF LIBOR, GBP LIBOR, SGD SIBOR and SOR and Australian BBSW, and seek unspecified compensatory and other damages under varying legal theories.

USD LIBOR class and individual actions in the US: In 2013 and 2015, the district court in the USD LIBOR actions dismissed, in whole or in part, certain plaintiffs' antitrust claims, federal racketeering claims, CEA claims, and state common law claims. Although the Second Circuit vacated the district court's judgment dismissing antitrust claims, the district court again dismissed antitrust claims against UBS in 2016. Certain plaintiffs have appealed that decision to the Second Circuit. Separately, in 2018, the Second Circuit reversed in part the district court's 2015 decision dismissing certain individual plaintiffs' claims and certain of these actions are now proceeding. UBS entered into an agreement in 2016 with representatives of a class of bondholders to settle their USD LIBOR class action. The agreement has received preliminary court approval and remains subject to final approval. In 2018, the district court denied plaintiffs' motions for class certification in the USD class actions for claims pending against UBS, and plaintiffs sought permission to appeal that ruling to the Second Circuit. In July 2018, the Second Circuit denied the petition to appeal of the class of USD lenders and in November 2018 denied the petition of the USD exchange class. In December 2019, UBS entered into an agreement with representatives of the class of USD lenders to settle their USD LIBOR class action. The agreement has received preliminary court approval and remains subject to final approval. In January 2019, a putative class action was filed in the District Court for the Southern District of New York against UBS and numerous other banks on behalf of US residents who, since 1 February 2014, directly transacted with a defendant bank in USD LIBOR instruments. The complaint asserts antitrust claims. The defendants moved to dismiss the complaint in August 2019.

Other benchmark class actions in the US: In 2014, the court in one of the Euroyen TIBOR lawsuits dismissed certain of the plaintiffs' claims, including a federal antitrust claim, for lack of standing. In 2015, this court dismissed the plaintiffs' federal racketeering claims on the same basis and affirmed its previous dismissal of the plaintiffs' antitrust claims against UBS. In 2017, this court also dismissed the other Yen LIBOR / Euroyen TIBOR action in its entirety on standing grounds, as did the court in the CHF LIBOR action. Also in 2017, the court in the EURIBOR lawsuit dismissed the case as to UBS and certain other foreign defendants for lack of personal jurisdiction. Plaintiffs in the other Yen LIBOR, Euroyen TIBOR and the EURIBOR actions have appealed the dismissals. In October 2018, the court in the SIBOR / SOR action dismissed all but one of plaintiffs' claims against UBS. Plaintiffs in the CHF LIBOR and SIBOR / SOR actions filed amended complaints following the dismissals, and the courts granted renewed motions to dismiss in July 2019 (SIBOR / SOR) and in September 2019 (CHF LIBOR). Plaintiffs in both actions have appealed. In November 2018, the court in the BBSW lawsuit dismissed the case as to UBS and certain other foreign defendants for lack of personal jurisdiction. Following that dismissal, plaintiffs in the BBSW action filed an amended complaint in April 2019, which UBS and other defendants named in the amended complaint have moved to dismiss. In February 2020, the court in the BBSW action granted in part and denied in part defendants' motions to dismiss the amended complaint. The court dismissed the GBP LIBOR action in August 2019, and plaintiffs appealed the dismissal in September 2019.

Government bonds: Putative class actions have been filed since 2015 in US federal courts against UBS and other banks on behalf of persons who participated in markets for US Treasury securities since 2007. A consolidated complaint was filed in 2017 in the US District Court for the Southern District of New York alleging that the banks colluded with respect to, and manipulated prices of, US Treasury securities sold at auction and in the secondary market and asserting claims under the antitrust laws and for unjust enrichment. Defendants' motions to dismiss the consolidated complaint are pending. Similar class actions have been filed concerning European government bonds and other government bonds.

UBS and reportedly other banks are responding to investigations and requests for information from various authorities regarding government bond trading practices. As a result of its review to date, UBS has taken appropriate action.

Government sponsored entities (GSE) bonds: Starting in February 2019, class action complaints were filed in the US District Court for the Southern District of New York against UBS and other banks on behalf of plaintiffs who traded GSE bonds. A consolidated complaint was filed alleging collusion in GSE bond trading between 1 January 2009 and 1 January 2016. In December 2019, UBS and eleven other defendants agreed to settle the class action for a total of USD 250 million. The settlement is subject to court approval.

Note 21 Provisions and contingent liabilities (continued)

With respect to additional matters and jurisdictions not encompassed by the settlements and orders referred to above, our balance sheet at 31 December 2019 reflected a provision in an amount that UBS believes to be appropriate under the applicable accounting standard. As in the case of other matters for which we have established provisions, the future outflow of resources in respect of such matters cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provision that we have recognized.

6. Swiss retrocessions

The Federal Supreme Court of Switzerland ruled in 2012, in a test case against UBS, that distribution fees paid to a firm for distributing third-party and intra-group investment funds and structured products must be disclosed and surrendered to clients who have entered into a discretionary mandate agreement with the firm, absent a valid waiver.

FINMA has issued a supervisory note to all Swiss banks in response to the Supreme Court decision. UBS has met the FINMA requirements and has notified all potentially affected clients.

The Supreme Court decision has resulted, and may continue to result, in a number of client requests for UBS to disclose and potentially surrender retrocessions. Client requests are assessed on a case-by-case basis. Considerations taken into account when assessing these cases include, among other things, the existence of a discretionary mandate and whether or not the client documentation contained a valid waiver with respect to distribution fees.

Our balance sheet at 31 December 2019 reflected a provision with respect to matters described in this item 6 in an amount that UBS believes to be appropriate under the applicable accounting standard. The ultimate exposure will depend on client requests and the resolution thereof, factors that are difficult to predict and assess. Hence, as in the case of other matters for which we have established provisions, the future outflow of resources in respect of such matters cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provision that we have recognized.

7. Securities transaction pricing and disclosure

UBS identified and reported to the relevant authorities instances in which some Global Wealth Management clients booked in Hong Kong and Singapore may have been charged inappropriate spreads on debt securities transactions between 2008 and 2015. In November 2019, UBS AG entered into a settlement with the Hong Kong Securities and Futures Commission (SFC) under which it was reprimanded and fined HKD 400 million (USD 51 million) and a settlement with the Monetary Authority of Singapore (MAS) under which it was fined SGD 11 million (USD 8.3 million). In addition, UBS has commenced reimbursing affected customers an aggregate amount equivalent to USD 47 million, including interest.

Our balance sheet at 31 December 2019 reflected a provision with respect to the matter described in this item 7 in an amount that UBS believes to be appropriate under the applicable accounting standard.

Note 22 Other liabilities

a) Other financial liabilities measured at amortized cost

USD million	31.12.19	31.12.18
Other accrued expenses	1,697	1,911
Accrued interest expenses	1,596	1,501
Settlement and clearing accounts	1,368	1,477
Lease liabilities[1]	3,858	
Other	1,854	2,688
Total other financial liabilities measured at amortized cost	10,373	7,576

1 Relates to the adoption of IFRS 16 on 1 January 2019. Refer to Note 1 for more information.

b) Other financial liabilities designated at fair value

USD million	31.12.19	31.12.18
Financial liabilities related to unit-linked investment contracts	28,145	21,679
Securities financing transactions	5,742	9,461
Over-the-counter debt instruments	2,022	2,450
of which: life-to-date own credit (gain) / loss	*(4)*	*(51)*
Funding from UBS Group AG and its subsidiaries	217	
Other	31	5
Total other financial liabilities designated at fair value[1]	36,157	33,594

1 As of 31 December 2019 and 31 December 2018, the contractual redemption amount at maturity of other financial liabilities designated at fair value through profit or loss was not materially different from the carrying amount.

c) Other non-financial liabilities

USD million	31.12.19	31.12.18
Compensation-related liabilities	4,296	4,645
of which: financial advisor compensation plans	*1,459*	*1,454*
of which: other compensation plans	*1,750*	*1,929*
of which: net defined benefit pension and post-employment liabilities	*629*	*773*
of which: other compensation-related liabilities [1]	*458*	*490*
Current and deferred tax liabilities	1,091	915
VAT and other tax payables	445	403
Deferred income	134	215
Other	202	98
Total other non-financial liabilities	6,168	6,275

1 Includes liabilities for payroll taxes and untaken vacation.

Additional information

Note 23 Expected credit loss measurement

a) Expected credit losses in the period

Total net credit loss expenses were USD 78 million in 2019, reflecting net credit loss expenses of USD 100 million related to credit-impaired (stage 3) positions, partly offset by USD 22 million of net releases in expected credit loss expense allowances from stage 1 and 2 positions.

In the Investment Bank, increased stage 1 and 2 ECL allowances and provisions recognized over the year primarily related to loans and credit facilities originated during 2019 and to changes in credit quality of existing assets, partly offset by a change in the applied credit risk models. In Personal & Corporate Banking and Global Wealth Management, ECL allowances and provisions slightly decreased over the year, primarily attributable to a minor improvement in book quality following continued positive developments of selected economic input data.

Stage 3 net losses of USD 100 million were recognized across a number of defaulted positions, mainly in Personal & Corporate Banking (USD 44 million) and, to a lesser extent, in the Investment Bank (USD 26 million) and Global Wealth Management (USD 23 million).

b) Changes to ECL models, scenarios, scenario weights and key inputs

Refer to Note 1a for information about the principles governing ECL models, scenarios, scenario weights and key inputs applied. In addition to the quarterly updates of market and behavioral data, which are relevant input factors to the credit rating methodology and the estimation of the probability of default (PD) and the loss given default (LGD), one significant change was applied to the models used to calculate ECLs for large corporate clients in the Investment Bank. During 2019, the data set was refreshed and aligned with the process applied to regulatory stress testing in the US, which resulted in a net release in expected credit loss expense allowances and provisions from stage 1 and 2 positions of USD 20 million. For portfolios where internal default data is insufficient for modeling purposes, UBS AG relies on external data providers.

Four scenarios and the related macroeconomic factors were reviewed in the fourth quarter of 2019 in light of the economic and political conditions prevailing at year-end. The selection of the three hypothetical scenarios remained essentially unchanged, although the narrative of the severe downside scenario was updated to include additional risks. The key aspects of the narrative for the scenarios are summarized below.

– The baseline scenario assumes continued growth in all key markets, albeit at a slower rate than in 2019. As a consequence, unemployment rates are not expected to fall noticeably, except in the US. Interest rates remain at low levels in line with the central bank policies pursued in the eurozone, Switzerland and in the US.
– The upside scenario assumes continued accommodative central bank policies in developed economies and a gradual decline of geopolitical and economic uncertainty. Underlying macroeconomic conditions improve, and asset values increase substantially.
– The mild downside scenario is based on a monetary policy tightening assumption, implemented by major central banks to deflate a potential asset price bubble, thus causing a mild recession.
– The narrative for the severe downside scenario, which during 2019 focused primarily on developments in the eurozone, has been broadened to cover a severe recessionary phase affecting all major economies. A wide-ranging slowdown is mainly caused by global trade tensions and debt sustainability concerns in Europe. Trade and business confidence are affected, being particularly felt in the key export markets for Swiss industry.

In each quarter the bases to which scenario-specific forecasts are applied, and the baseline forecast itself, were updated using the most recently available information (key macroeconomic data and relevant market indicators). The key forward-looking macroeconomic variables applied to the four scenarios as of 31 December 2019 are summarized in the table on the following page.

The determination of scenario weights is subject to the process and governance outlined in Note 1a item 3g. An econometric model is used to provide input into the scenario weight assessment process. The model output gives a first estimate of the probability that the GDP assumptions used for each scenario materialize, according to the historically observed deviations of GDP growth from trend growth. Since the probability estimates produced by the model do not include an assessment of the underlying economic or political causes, management positions the model output into the context of current conditions and future expectations, and applies judgment in determining the final scenario weights. The reviews during 2019 reflected the increasing probability of a weakening economy in key markets, after a long spell of substantial expansion, and the uncertainties about the influence that several political developments with unforeseeable outcomes may have on future growth. At year-end 2019, management reflected these developments by giving more weight to the severe downside scenario compared with 31 December 2018.

Non-linearity of credit losses in relation to macroeconomic factors is usually most pronounced in portfolios that are most sensitive to interest rates, especially in the areas of mortgage loans to private clients and real estate financing. The mild downside scenario therefore reflects a significant rise in interest rates as a key component and is also particularly relevant for credit risk management purposes.

As noted above, scenario weights are a reflection of risks identified during management's assessment of economic and geopolitical risks and not a specific expectation that a particular narrative with its defined macroeconomic factors (e.g., interest rates) will materialize. Other scenarios for a mild downside with less focus on interest rates would, however, not have been representative of the potential asymmetry of loan losses in a downturn. A more severe recession can be triggered by political factors that cannot be modeled based on observed history; given this consideration, the weight assigned to the severe downside case was also based on management's assessment of the geopolitical risks that might affect all of our key markets and portfolios.

ECL scenario	Assigned weights in %	
	31.12.19	31.12.18
Upside	7.5	10.0
Baseline	42.5	45.0
Mild downside	35.0	35.0
Severe downside	15.0	10.0

Note 23 Expected credit loss measurement (continued)

	One year				Three years cumulative			
Key parameters	Upside	Baseline	Mild downside	Severe downside	Upside	Baseline	Mild downside	Severe downside
Real GDP growth (% change)								
United States	4.3	1.9	(0.5)	(6.4)	10.9	6.4	0.0	(4.3)
Eurozone	3.6	1.0	(0.3)	(9.1)	9.5	2.8	0.7	(10.8)
Switzerland	4.2	1.5	(0.8)	(7.0)	10.4	4.8	(0.1)	(6.2)
Consumer price index (% change)								
United States	3.1	1.8	4.9	(1.2)	8.6	6.2	11.1	0.4
Eurozone	2.1	1.3	2.8	(1.3)	6.7	4.3	6.2	(1.7)
Switzerland	1.5	0.8	1.8	(1.8)	5.5	2.7	4.2	(1.6)
Unemployment rate (change, percentage points)								
United States	(0.9)	(0.4)	0.3	5.7	(0.9)	(0.5)	0.7	5.6
Eurozone	(1.4)	(0.1)	0.6	5.6	(1.9)	(0.2)	1.0	7.9
Switzerland	(0.3)	0.1	0.5	2.6	(0.8)	0.3	1.2	3.6
Fixed income: 10-year government bonds (change in yields, basis points)								
USD	61.0	0.2	187.5	(100.0)	274.1	10.1	262.5	(75.0)
EUR	65.0	8.4	112.5	(30.0)	221.7	28.2	225.0	(20.0)
CHF	73.0	9.5	187.5	(70.0)	283.0	30.0	262.5	(35.0)
Equity indices (% change)								
S&P 500	14.8	3.5	(20.3)	(53.0)	42.7	9.5	(23.5)	(42.9)
EuroStoxx 50	17.0	0.5	(15.5)	(60.0)	44.3	4.4	(14.7)	(52.9)
SPI	13.9	1.4	(19.0)	(56.2)	42.2	5.3	(24.0)	(46.8)
Swiss real estate (% change)								
Single-Family Homes	4.5	0.1	(7.3)	(15.2)	14.1	2.3	(15.8)	(27.0)
Other real estate (% change)								
United States (S&P/Case-Shiller)	6.2	4.0	(4.0)	(13.3)	17.7	16.7	(11.9)	(23.4)
Eurozone (House Price Index)	4.9	1.2	(1.2)	(23.0)	15.4	2.2	(6.8)	(33.2)

c) Development of ECL allowances and provisions

The ECL allowances and provisions recognized in the period are impacted by a variety of factors, such as:
- origination of new instruments during the period;
- effect of passage of time as the ECLs on an instrument for the remaining lifetime reduces (all other factors remaining the same);
- discount unwind within ECLs as it is measured on a present value basis;
- derecognition of instruments in the period;
- change in individual asset quality of instruments;
- portfolio effect of updating forward-looking scenarios and the respective weights;
- movements from a "maximum 12-month ECL" to the recognition of "lifetime ECLs" (and vice versa) following transfers between stages 1 and 2;
- movements from stages 1 and 2 to stage 3 (credit-impaired status) when default has become certain and probability of default (PD) increases to 100% (or vice versa);
- changes in credit risk and/or economic forecasting models or updates to model parameters; and
- foreign exchange translations for assets denominated in foreign currencies and other movements.

The following table explains the changes in the ECL allowances and provisions for on- and off-balance sheet financial instruments and other credit lines in scope of ECL requirements between the beginning and the end of the period due to the factors listed on the previous page.

	Development of ECL allowances and provisions			
USD million	Total	Stage 1	Stage 2	Stage 3
Balance as of 31 December 2018	(1,054)	(176)	(183)	(695)
ECL movements due to stage transfer[1]	0	(96)	103	(8)
Net movement from new and derecognized transactions[2]	(53)	(66)	10	3
of which: Private clients with mortgages	*(1)*	*(4)*	*3*	*0*
of which: Real estate financing	*(3)*	*(5)*	*2*	*0*
of which: Large corporate clients	*(6)*	*(14)*	*8*	*0*
of which: SME clients	*(16)*	*(14)*	*(2)*	*0*
Book quality movements	(52)	141	(97)	(96)
Remeasurements due to stage transfers[3]	(125)	110	(138)	(97)
of which: Private clients with mortgages	*(5)*	*70*	*(74)*	*(1)*
of which: Real estate financing	*5*	*21*	*(16)*	*0*
of which: Large corporate clients	*(45)*	*1*	*(11)*	*(35)*
of which: SME clients	*(64)*	*6*	*(17)*	*(53)*
Remeasurements without stage transfers[4]	73	31	41	1
of which: Private clients with mortgages	*22*	*2*	*30*	*(9)*
of which: Real estate financing	*1*	*0*	*0*	*1*
of which: Large corporate clients	*(24)*	*(10)*	*0*	*(14)*
of which: SME clients	*35*	*9*	*10*	*17*
Model and methodology changes[5]	26	17	9	0
Total ECL movements with profit or loss impact[6]	(78)	(4)	25	(100)
Other allowance and provision movements	105	(1)	(2)	108
Write-offs / recoveries[7]	130	0	0	130
Reclassifications[8]	0	0	0	0
Foreign exchange movements[9]	(8)	(1)	(2)	(4)
Other	(19)	0	0	(18)
Balance as of 31 December 2019	(1,029)	(181)	(160)	(688)

1 Represents ECL allowances and provisions prior to ECL remeasurement due to stage transfer. 2 Represents the increase and decrease in allowances and provisions resulting from financial instruments (including guarantees and facilities) that were newly originated, purchased or renewed and from the final derecognition of loans or facilities on their maturity date or earlier. 3 Represents the remeasurement between 12-month and lifetime ECL due to stage transfers. 4 Represents the change in allowances and provisions related to changes in model inputs or assumptions, including changes in forward-looking macroeconomic conditions, changes in the exposure profile, PD and LGD changes, and unwinding of the time value. 5 Represents the change in the allowances and provisions related to changes in models and methodologies. Refer to Note 23b for more information. 6 Includes ECL movements due to stage transfers, ECL movements from new and derecognized transactions, book quality changes and model and methodology changes. 7 Represents the decrease in allowances and provisions resulting from write-offs of the ECL allowance against the gross carrying amount when all or part of a financial asset is deemed uncollectible or forgiven. 8 Represents reclassifications to Other assets measured at amortized cost. 9 Represents the change in allowances and provisions related to movements in foreign exchange rates.

Note 23 Expected credit loss measurement (continued)

The following table explains the changes in the ECL allowances and provisions for *Loans and advances to customers, Loans to financial advisors* and off-balance sheet financial instruments and other credit lines between the beginning and the end of the period.

	Development of ECL allowances and provisions			
USD million	Total	Stage 1	Stage 2	Stage 3
Balance as of 1 January 2018	(1,117)	(141)	(193)	(783)
ECL movements due to stage transfer[1]	0	(97)	95	2
Net movement from new and derecognized transactions[2]	(10)	(44)	15	19
of which: Private clients with mortgages	*(3)*	*(6)*	*4*	*0*
of which: Real estate financing	*(3)*	*(8)*	*5*	*0*
of which: Large corporate clients	*2*	*(6)*	*1*	*8*
of which: SME clients	*(10)*	*(14)*	*4*	*0*
Book quality movements	(89)	112	(87)	(114)
Remeasurements due to stage transfers[3]	(16)	95	(103)	(7)
of which: Private clients with mortgages	*(11)*	*54*	*(63)*	*(1)*
of which: Real estate financing	*5*	*24*	*(19)*	*0*
of which: Large corporate clients	*(1)*	*0*	*(3)*	*1*
of which: SME clients	*1*	*7*	*(7)*	*0*
Remeasurements without stage transfers[4]	(73)	17	16	(106)
of which: Private clients with mortgages	*(9)*	*2*	*(3)*	*(7)*
of which: Real estate financing	*8*	*4*	*12*	*(8)*
of which: Large corporate clients	*(56)*	*(2)*	*(6)*	*(48)*
of which: SME clients	*(55)*	*9*	*6*	*(70)*
Model and methodology changes[5]	(13)	(2)	(11)	0
Subtotal ECL movements with profit or loss impact[6]	(104)	(30)	11	(86)
Other allowance and provision movements	227	10	1	216
Write-offs / recoveries[7]	200	1	0	199
Reclassifications[8]	25	7	3	15
Foreign exchange movements[9]	8	0	0	8
Other	(6)	2	(1)	(6)
Balance as of 31 December 2018	(1,002)	(162)	(180)	(661)

1 Represents ECL allowances and provisions prior to ECL remeasurement due to stage transfer. 2 Represents the increase and decrease in allowances and provisions resulting from financial instruments (including guarantees and facilities) that were newly originated, purchased or renewed and from the final derecognition of loans or facilities on their maturity date or earlier. 3 Represents the remeasurement between 12-month and lifetime ECL due to stage transfers. 4 Represents the change in allowances and provisions related to changes in model inputs or assumptions, including changes in forward-looking macroeconomic conditions, changes in the exposure profile, PD and LGD changes, and unwinding of the time value. 5 Represents the change in the allowances and provisions related to changes in models and methodologies. 6 UBS has restated ECL movements with profit or loss (P&L) impact to include ECL movements due to stage transfer. This aligns with a change in approach adopted in 2019 to allow for the total ECL P&L impacts by stage to be disclosed, including ECL movements due to stage transfers, ECL movements from new and derecognized transactions, book quality changes, model and methodology changes and foreign exchange rates. 7 Represents the decrease in allowances and provisions resulting from write-offs of the ECL allowance against the gross carrying amount when all or part of a financial asset is deemed uncollectible or forgiven. 8 Represents reclassifications to Other assets measured at amortized cost. 9 Represents the change in allowances and provisions related to movements in foreign exchange rates.

Note 23 Expected credit loss measurement (continued)

d) Maximum exposure to credit risk

The tables on the following pages provide UBS AG's maximum exposure to credit risk for financial instruments subject to ECL requirements and the respective collateral and other credit enhancements mitigating credit risk for these classes of financial instruments.

The maximum exposure to credit risk includes the carrying amounts of financial instruments recognized on the balance sheet subject to credit risk and the notional amounts for off-balance sheet arrangements. Where information is available, collateral is presented at fair value. For other collateral, such as real estate, a reasonable alternative value is used. Credit enhancements, such as credit derivative contracts and guarantees, are included at their notional amounts. Both are capped at the maximum exposure to credit risk for which they serve as security. The "Risk management and control" section of this report describes management's view of credit risk and the related exposures, which can differ in certain respects from the requirements of IFRS.

Maximum exposure to credit risk

	31.12.19								
		Collateral				Credit enhancements			
USD billion	Maximum exposure to credit risk	Cash collateral received	Collateralized by securities	Secured by real estate	Other collateral[1]	Netting	Credit derivative contracts	Guarantees	Exposure to credit risk after collateral and credit enhancements
Financial assets measured at amortized cost on the balance sheet									
Cash and balances at central banks	107.1								107.1
Loans and advances to banks[2]	12.4		0.0						12.3
Receivables from securities financing transactions	84.2		77.6		5.8				0.8
Cash collateral receivables on derivative instruments[3,4]	23.3					14.4			8.9
Loans and advances to customers[5]	328.0	19.4	101.4	174.7	17.1			1.1	14.3
Other financial assets measured at amortized cost	23.0	0.1	0.4	0.0	1.3				21.2
Total financial assets measured at amortized cost	578.0	19.5	179.4	174.7	24.3	14.4	0.0	1.1	164.6
Financial assets measured at fair value through other comprehensive income – debt	6.3								6.3
Total maximum exposure to credit risk reflected on the balance sheet in scope of ECL	584.3	19.5	179.4	174.7	24.3	14.4	0.0	1.1	171.0
Guarantees[6]	18.1	1.0	3.0	0.1	1.7			2.5	9.8
Loan commitments[6]	27.5	0.2	1.9	1.3	5.8		0.2	0.2	18.0
Forward starting transactions, reverse repurchase and securities borrowing agreements	1.7		1.7						0.0
Committed unconditionally revocable credit lines	36.9	0.3	8.3	4.9	3.6			0.0	19.8
Total maximum exposure to credit risk not reflected on the balance sheet, in scope of ECL	84.2	1.5	14.9	6.3	11.0	0.0	0.2	2.8	47.6

Note 23 Expected credit loss measurement (continued)

Maximum exposure to credit risk (continued)

	31.12.18								
		Collateral				Credit enhancements			Exposure to credit risk after collateral and credit enhancements
USD billion	Maximum exposure to credit risk	Cash collateral received	Collateralized by securities	Secured by real estate	Other collateral[1]	Netting	Credit derivative contracts	Guarantees	
Financial assets measured at amortized cost on the balance sheet									
Cash and balances at central banks	108.4								108.4
Loans and advances to banks[2]	16.6		0.1						16.6
Receivables from securities financing transactions	95.3		92.5		2.5				0.3
Cash collateral receivables on derivative instruments[3,4]	23.6					14.5			9.1
Loans and advances to customers[5]	321.5	17.7	104.4	167.1	16.2		0.0	1.2	14.8
Other financial assets measured at amortized cost	22.6	0.1	0.4	0.0	1.1				21.0
Total financial assets measured at amortized cost	588.1	17.8	197.4	167.2	19.9	14.5	0.0	1.2	170.2
Financial assets measured at fair value through other comprehensive income – debt	6.7								6.7
Total maximum exposure to credit risk reflected on the balance sheet in scope of ECL	594.8	17.8	197.4	167.2	19.9	14.5	0.0	1.2	176.9
Guarantees[6]	18.1	1.3	2.5	0.1	1.2			2.7	10.2
Loan commitments[6]	31.2	0.4	2.8	1.5	5.7		0.2	0.7	19.8
Forward starting transactions, reverse repurchase and securities borrowing agreements	0.9		0.9						0.0
Committed unconditionally revocable credit lines	38.8	1.1	6.5	4.2	3.9				23.2
Total maximum exposure to credit risk not reflected on the balance sheet, in scope of ECL	89.0	2.8	12.7	5.8	10.8	0.0	0.2	3.4	53.2

1 Includes but is not limited to life insurance contracts, inventory, mortgage loans, gold and other commodities. 2 Loans and advances to banks include amounts held with third-party banks on behalf of clients. The credit risk associated with these balances may be borne by those clients. 3 Included within Cash collateral receivables on derivative instruments are margin balances due from exchanges or clearing houses. Some of these margin balances reflect amounts transferred on behalf of clients who retain the associated credit risk. 4 The amount shown in the "Netting" column represents the netting potential not recognized on the balance sheet. Refer to Note 25 for more information. 5 Collateral arrangements generally incorporate a range of collateral, including cash, securities, property and other collateral. 6 The amount shown in the "Guarantees" column largely relates to sub-participations. Refer to Note 34 for more information.

Note 23 Expected credit loss measurement (continued)

e) Financial assets subject to credit risk by rating category

The table below shows the credit quality and the maximum exposure to credit risk based on the UBS AG's internal credit rating system and year-end stage classification. With the transition to IFRS 9, the credit risk rating reflects UBS AG's assessment of the probability of default of individual counterparties, prior to substitutions. The amounts presented are gross of impairment allowances.

→ **Refer to the "Risk management and control" section of this report for more details regarding UBS AG's internal grading system**

Financial assets subject to credit risk by rating category

USD million	31.12.19								
Rating category[1]	0–1	2–3	4–5	6–8	9–13	Credit-impaired (defaulted)	Total gross carrying amount	ECL allowances	Net carrying amount (maximum exposure to credit risk)
Financial assets measured at amortized cost									
Cash and balances at central banks	105,195	1,873	0	0	0	0	107,068	0	107,068
of which: stage 1	*105,195*	*1,873*	*0*	*0*	*0*	*0*	*107,068*	*0*	*107,068*
Loans and advances to banks	309	9,764	1,326	687	298	1	12,386	(6)	12,379
of which: stage 1	*309*	*9,764*	*1,326*	*677*	*228*	*0*	*12,303*	*(4)*	*12,299*
of which: stage 2	*0*	*0*	*0*	*10*	*71*	*0*	*81*	*(1)*	*80*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*1*	*1*	*(1)*	*0*
Receivables from securities financing transactions	21,089	16,889	14,366	28,815	3,088	0	84,246	(2)	84,245
of which: stage 1	*21,089*	*16,889*	*14,366*	*28,815*	*3,088*	*0*	*84,246*	*(2)*	*84,245*
Cash collateral receivables on derivative instruments	4,899	10,553	5,033	2,765	39	0	23,289	0	23,289
of which: stage 1	*4,899*	*10,553*	*5,033*	*2,765*	*39*	*0*	*23,289*	*0*	*23,289*
Loans and advances to customers	1,744	176,189	59,240	70,528	18,748	2,308	328,756	(764)	327,992
of which: stage 1	*1,744*	*175,534*	*56,957*	*62,435*	*14,117*	*0*	*310,787*	*(82)*	*310,705*
of which: stage 2	*0*	*655*	*2,283*	*8,093*	*4,631*	*0*	*15,661*	*(123)*	*15,538*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*2,308*	*2,308*	*(559)*	*1,749*
Other financial assets measured at amortized cost	13,030	1,592	390	7,158	312	672	23,154	(143)	23,012
of which: stage 1	*13,030*	*1,581*	*381*	*6,747*	*280*	*0*	*22,019*	*(35)*	*21,985*
of which: stage 2	*0*	*11*	*9*	*412*	*32*	*0*	*463*	*(13)*	*451*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*672*	*672*	*(95)*	*576*
Total financial assets measured at amortized cost	146,267	216,860	80,354	109,952	22,485	2,981	578,899	(915)	577,985
On-balance sheet financial instruments									
Financial assets measured at FVOCI – debt instruments	5,854	450	0	41	0	0	6,345	0	6,345
Total on balance sheet financial instruments	152,120	217,309	80,354	109,994	22,485	2,981	585,245	(915)	584,329

1 Refer to the "Internal UBS rating scale and mapping of external ratings" table in the "Risk management and control" section of this report for more information on rating categories.

Note 23 Expected credit loss measurement (continued)

Off-balance sheet positions subject to expected credit loss by rating category

USD million	31.12.19							
Rating category[1]	0–1	2–3	4–5	6–8	9–13	Credit-impaired (defaulted)	Total carrying amount (maximum exposure to credit risk)	ECL provision
Off-balance sheet financial instruments								
Guarantees	857	4,932	6,060	5,450	761	82	18,142	(42)
of which: stage 1	*857*	*4,931*	*6,048*	*5,218*	*704*	*0*	*17,757*	*(8)*
of which: stage 2	*0*	*1*	*12*	*233*	*57*	*0*	*304*	*(1)*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*82*	*82*	*(33)*
Irrevocable loan commitments	2,548	10,068	4,862	5,859	4,160	50	27,547	(35)
of which: stage 1	*2,548*	*10,068*	*4,862*	*5,722*	*3,878*	*0*	*27,078*	*(30)*
of which: stage 2	*0*	*0*	*0*	*137*	*282*	*0*	*419*	*(5)*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*50*	*50*	*0*
Forward starting reverse repurchase and securities borrowing agreements	0	672	50	936	0	0	1,657	0
Total off balance sheet financial instruments	3,405	15,672	10,972	12,245	4,922	132	47,347	(77)
Other credit lines								
Committed unconditionally revocable credit lines	632	14,346	6,231	7,169	8,554	46	36,979	(34)
of which: stage 1	*632*	*14,309*	*6,120*	*6,789*	*7,889*	*0*	*35,740*	*(17)*
of which: stage 2	*0*	*37*	*111*	*380*	*665*	*0*	*1,193*	*(17)*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*46*	*46*	*0*
Irrevocable committed prolongation of existing loans	25	1,399	870	633	359	4	3,289	(3)
of which: stage 1	*25*	*1,399*	*870*	*633*	*359*	*0*	*3,285*	*(3)*
of which: stage 2	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*4*	*4*	*0*
Total other credit lines	657	15,745	7,101	7,801	8,913	50	40,268	(37)

1 Refer to the "Internal UBS rating scale and mapping of external ratings" table in the "Risk management and control" section of this report for more information on rating categories.

Note 23 Expected credit loss measurement (continued)

Financial assets subject to credit risk by rating category

USD million	31.12.18								
Rating category[1]	0–1	2–3	4–5	6–8	9–13	Credit-impaired (defaulted)	Total gross carrying amount	ECL allowances	Net carrying amount (maximum exposure to credit risk)
Financial assets measured at amortized cost									
Cash and balances at central banks	103,635	4,735	0	0	0	0	108,370	0	108,370
of which: stage 1	*103,635*	*4,735*	*0*	*0*	*0*	*0*	*108,370*	*0*	*108,370*
Loans and advances to banks	829	13,286	1,302	922	307	3	16,649	(8)	16,641
of which: stage 1	829	13,286	1,302	758	268	0	16,443	*(4)*	*16,439*
of which: stage 2	0	0	0	164	39	0	203	*(1)*	*202*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*3*	*3*	*(3)*	*0*
Receivables from securities financing transactions	29,065	24,653	13,602	26,866	1,165	0	95,351	(2)	95,349
of which: stage 1	*29,065*	*24,653*	*13,602*	*26,866*	*1,165*	*0*	*95,351*	*(2)*	*95,349*
Cash collateral receivables on derivative instruments	5,136	10,044	5,282	3,040	101	0	23,603	0	23,603
of which: stage 1	*5,136*	*10,044*	*5,282*	*3,040*	*101*	*0*	*23,603*	*0*	*23,603*
Loans and advances to customers	3,641	173,454	52,806	74,042	16,014	2,297	322,255	(772)	321,482
of which: stage 1	*3,621*	*172,714*	*49,517*	*62,484*	*11,111*	*0*	*299,448*	*(69)*	*299,379*
of which: stage 2	*20*	*740*	*3,289*	*11,558*	*4,903*	*0*	*20,510*	*(155)*	*20,355*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*2,297*	*2,297*	*(549)*	*1,748*
Other financial assets measured at amortized cost	13,409	682	316	7,525	274	586	22,792	(156)	22,636
of which: stage 1	*13,409*	*682*	*316*	*7,300*	*272*	*0*	*21,979*	*(43)*	*21,936*
of which: stage 2	*0*	*0*	*0*	*225*	*2*	*0*	*227*	*(4)*	*223*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*586*	*586*	*(109)*	*477*
Total financial assets measured at amortized cost	155,715	226,854	73,308	112,395	17,861	2,886	589,020	(937)	588,081
On-balance sheet financial instruments									
Financial assets measured at FVOCI – debt instruments	3,889	2,702	0	76	0	0	6,667	0	6,667
Total on balance sheet financial instruments	159,604	229,556	73,308	112,471	17,861	2,886	595,687	(937)	594,748

1 Refer to the "Internal UBS rating scale and mapping of external ratings" table in the "Risk management and control" section of this report for more information on rating categories.

Note 23 Expected credit loss measurement (continued)

Off-balance sheet positions subject to expected credit loss by rating category

USD million	31.12.18							
Rating category[1]	0–1	2–3	4–5	6–8	9–13	Credit-impaired (defaulted)	Total carrying amount (maximum exposure to credit risk)	ECL provision
Off-balance sheet financial instruments								
Guarantees	978	6,673	3,859	5,415	1,006	215	18,146	(43)
of which: stage 1	*978*	*6,670*	*3,849*	*5,013*	*811*		*17,321*	*(7)*
of which: stage 2		*3*	*10*	*402*	*195*	*0*	*610*	*(2)*
of which: stage 3	*0*	*0*	*0*	*0*		*215*	*215*	*(34)*
Irrevocable loan commitments	2,088	11,667	6,519	6,480	4,405	53	31,212	(37)
of which: stage 1	*2,088*	*11,667*	*6,519*	*6,297*	*4,020*	*0*	*30,591*	*(32)*
of which: stage 2	*0*	*0*	*0*	*183*	*385*	*0*	*568*	*(5)*
of which: stage 3	*0*	*0*	*0*	*0*		*53*	*53*	*0*
Forward starting reverse repurchase and securities borrowing agreements	25	510	150	254	0	0	939	0
Total off balance sheet financial instruments	3,091	18,850	10,528	12,148	5,411	268	50,296	(80)
Other credit lines								
Committed unconditionally revocable credit lines	776	12,426	5,332	12,140	8,084	93	38,851	(35)
of which: stage 1	*768*	*12,398*	*5,202*	*11,367*	*7,603*		*37,338*	*(19)*
of which: stage 2	*8*	*28*	*130*	*773*	*481*	*0*	*1,420*	*(16)*
of which: stage 3	*0*				*0*	*93*	*93*	
Irrevocable committed prolongation of existing loans	27	1,346	889	901	154	22	3,339	(1)
of which: stage 1	*27*	*1,315*	*680*	*701*	*137*	*0*	*2,860*	*(1)*
of which: stage 2	*0*	*31*	*209*	*200*	*17*	*0*	*457*	*0*
of which: stage 3	*0*	*0*	*0*			*22*	*22*	*0*
Total other credit lines	803	13,772	6,221	13,041	8,238	115	42,190	(36)

1 Refer to the "Internal UBS rating scale and mapping of external ratings" table in the "Risk management and control" section of this report for more information on rating categories.

Note 23 Expected credit loss measurement (continued)

f) Credit-impaired financial instruments at amortized cost

The credit risk in UBS AG's portfolio is actively managed by taking collateral against exposures and by utilizing credit hedging. Collateral held against credit-impaired loan exposures (stage 3) mainly consisted of real estate and securities. It is UBS AG's policy to dispose of foreclosed real estate as soon as practicable. The carrying amount of foreclosed property recorded in our balance sheet at the end of 2019 and 2018 amounted to USD 86 million and USD 60 million, respectively. The firm seeks to liquidate collateral held in the form of financial assets expeditiously and at prices considered fair. This may require us to purchase assets for our own account, where permitted by law, pending orderly liquidation. Financial assets that are credit-impaired and related collateral held in order to mitigate potential losses are shown in the table below.

USD million	31.12.19			
	Gross carrying amount	Allowance for expected credit losses	Net carrying amount	Collateral / credit enhancements
Loans and advances to banks	1	(1)	0	0
Loans and advances to customers	2,308	(559)	1,749	1,698
of which: Private clients with mortgages	*1,000*	*(41)*	*959*	*959*
of which: Real estate financing	*21*	*(4)*	*17*	*13*
of which: Large corporate clients	*192*	*(98)*	*94*	*77*
of which: SME clients	*791*	*(271)*	*521*	*461*
of which: Lombard	*116*	*(18)*	*98*	*89*
Other financial assets measured at amortized cost	672	(95)	576	22
Total credit-impaired financial assets measured at amortized cost	2,981[1]	(655)[1]	2,326	1,720
Guarantees	82	(33)		10
of which: Large corporate clients	*24*	*(9)*		*8*
of which: SME clients	*58*	*(23)*		*2*
Loan commitments	50	0		12
Committed unconditionally revocable credit lines	46	0		5
Irrevocable committed prolongation of existing loans	4	0		0
Total off-balance sheet financial instruments and other credit lines	182[1]	(33)[1]		27

1 Under IFRS 9, adopted on 1 January 2018, an instrument is classified as credit-impaired if the counterparty is defaulted, and/or the instrument is purchased or originated credit-impaired and includes credit-impaired exposures for which no loss has occurred or no allowance has been recognized (e.g., because they are expected to be fully recoverable through the collateral held).

USD million	31.12.18			
	Gross carrying amount	Allowance for expected credit losses	Net carrying amount	Collateral / credit enhancements
Loans and advances to banks	3	(3)	0	0
Loans and advances to customers	2,297	(549)	1,748	1,654
of which: Private clients with mortgages	*836*	*(39)*	*796*	*796*
of which: Real estate financing	*54*	*(16)*	*38*	*30*
of which: Large corporate clients	*170*	*(82)*	*88*	*79*
of which: SME clients	*888*	*(256)*	*632*	*561*
of which: Lombard	*31*	*(17)*	*14*	*14*
Other financial assets measured at amortized cost	586	(109)	478	12
Total credit-impaired financial assets measured at amortized cost	2,886[1]	(660)[1]	2,226	1,666
Guarantees	215	(34)		84
of which: Large corporate clients	*127*	*(6)*		*79*
of which: SME clients	*77*	*(25)*		*5*
Loan commitments	53	0		8
Committed unconditionally revocable credit lines	93	0		9
Irrevocable committed prolongation of existing loans	22	0		0
Total off-balance sheet financial instruments and other credit lines	383[1]	(34)[1]		102

1 Under IFRS 9, adopted on 1 January 2018, an instrument is classified as credit-impaired if the counterparty is defaulted, and/or the instrument is purchased or originated credit-impaired and includes credit-impaired exposures for which no loss has occurred or no allowance has been recognized (e.g., because they are expected to be fully recoverable through the collateral held).

Note 23 Expected credit loss measurement (continued)

g) Sensitivity information

As outlined in Note 1a, ECL estimates involve significant uncertainties at the time they are made.

ECL model

The models applied to determine point in time probability of default (PD) and loss given default (LGD) rely on market and statistical data, which have been found to correlate well with historically observed defaults in sufficiently homogeneous segments. The risk sensitivities for each of the IFRS 9 reporting segments to such factors have been summarized in Note 10.

Emerging new systematic risk factors may not be sufficiently taken into account by existing models and may affect the responsiveness thereof to a changing environment. This risk is deemed to be immaterial and is monitored through regular model review processes. It is deemed to be of less importance in particular for the large books of mortgage loans, where risk drivers tend to be stable.

Statistically derived models, which perform well on a reasonably sized and homogeneous portfolio, may show weakness in smaller-sized sub-portfolios, for which other or differently weighted factors may be more relevant criteria. Where risk experts conclude that the output of a general model is not in line with what they would have expected for a specific portfolio segment, and that this would be material for ECL, the use of overlays would be recommended, based on management judgment.

ECL estimations for segments where the PD is homogeneous, but the credit exposure is not, may prove to be inaccurate – even though all parameters have been accurately predicted – as the actual amount of loss depends on the exposure of the position that defaulted. This observation is less relevant for retail-type portfolios with smaller individual exposures from mortgage loans or financing of small and medium-sized corporate clients (SME), but may become important for the large corporate client portfolios in the Investment Bank and Personal & Corporate Banking.

Forward-looking scenarios

Depending on the scenario selection and related macroeconomic assumptions for the risk factors, the components of the relevant weighted average ECL change. This is particularly relevant for interest rates, which can take both directions under a given growth assumption (for example, low growth with high interest rates in a stagflation scenario, versus low growth and falling interest rates in a recession). Management will look for scenario narratives that reflect the key risk drivers of a credit portfolio.

As forecasting models are complex, due to the combination of multiple factors, simple what-if analyses involving a change of individual parameters do not necessarily provide realistic information on the exposure of segments to changes in the macroeconomy. Portfolio-specific analyses based on their key risk factors would also not be meaningful, as potential compensatory effects in other segments would be ignored. The table below indicates some sensitivities to ECLs if a key macroeconomic variable for the forecasting period is amended across all scenarios with all other factors remaining unchanged.

Potential effect on stage 1 and stage 2 positions from changing key parameters as at 31 December 2019

USD million	Baseline	Upside	Mild downside	Severe downside	Weighted average
Change in key parameters					
Fixed income: 10-year government bonds (absolute change)					
−1.00%	0.34	(0.52)	(25.25)	(0.21)	(7.69)
−0.25%	0.06	(0.31)	(7.72)	(0.11)	(2.31)
+0.25%	(0.02)	0.47	7.75	0.12	2.18
+1.00%	3.34	4.03	36.65	0.11	13.35
Unemployment rate (absolute change)					
−1.00%	(6.72)	(4.79)	(26.41)	(54.97)	(18.02)
−0.25%	(2.00)	(1.45)	(7.79)	(16.20)	(5.43)
+0.25%	2.26	1.65	8.74	17.31	5.99
+1.00%	8.56	5.93	36.27	73.04	24.36
Real GDP growth (relative change)					
−1.00%	2.50	2.42	2.42	1.01	2.19
+1.00%	(2.79)	(1.47)	(2.47)	(1.01)	(2.37)
House Price Index (relative change)					
−5.00%	1.00	0.59	4.67	9.50	3.06
−1.00%	0.21	0.13	0.85	1.89	0.56
+1.00%	(0.16)	(0.09)	(0.90)	(2.16)	(0.54)
+5.00%	(0.25)	(0.42)	(4.66)	(8.51)	(2.52)

Sensitivities at the UBS AG level can be more meaningfully assessed in the context of coherent scenarios with consistently developed macroeconomic factors. The table on the previous page outlines favorable and unfavorable effects based on reasonably possible alternative changes to the economic conditions on ECL for stage 1 and stage 2 positions by disclosing for each scenario (see item b in this Note) and material portfolio the corresponding ECL output. The effect of applying scenarios is not linear across the portfolio, with a significant impact observed in the mortgage loan books, as the potential effect of rising interest rates manifests itself in the mild downside scenario, while high unemployment rates combined with a marked correction of house prices contribute to high expected losses in the severe downside scenario.

The forecasting horizon is limited to three years, with a model-based mean reversion of PD and LGD assumed thereafter. Changes to these timelines may have an effect on ECLs: depending on the cycle, a longer or shorter forecasting horizon will lead to different annualized lifetime PD and average LGD estimations. This is currently not deemed to be material for UBS AG, as a large proportion of loans, including mortgages in Switzerland, have maturities that are within the forecasting horizon.

Scenario weights

ECL is sensitive to changing scenario weights, in particular if narratives and parameters are selected that are not close to the baseline scenario, highlighting the non-linearity of credit losses.

As shown in the table on the bottom of this page, the ECL for stage 1 and stage 2 positions would have been USD 234 million (31 December 2018: USD 237 million) instead of USD 341 million (31 December 2018: USD 359 million) if ECL had been determined solely on the baseline scenario. The weighted average ECL therefore amounts to 149% (31 December 2018: 152%) of the baseline value.

Stage allocation and SICR

The determination of what constitutes a significant increase in credit risk (SICR) is based on management judgment as explained in Note 1a. Changing the SICR trigger will have a direct effect on ECLs, as more or fewer positions would be subject to lifetime ECLs under any scenario.

The relevance of the SICR trigger on overall ECL is demonstrated in the table below with the indication that the ECL for stage 1 and stage 2 positions would have been USD 713 million if all non-impaired positions across the portfolio had been measured for lifetime ECLs irrespective of their actual SICR status.

Maturity profile

The maturity profile of the assets is an important driver for changes in ECL due to transfers to stage 2. The current maturity profile of most lending books is relatively short; hence a movement to stage 2 may have a limited effect on ECLs. A significant portion of our lending to SMEs is documented under frame credit agreements, which allow for various forms of utilization but are unconditionally cancelable by UBS AG at any time. The relevant maturity for drawings under such agreements with a fixed maturity is the respective term, or a maximum of 12 months in stage 1. For unused credit lines and all drawings that have no fixed maturity (e.g., current accounts), UBS AG generally applies a 12-month maturity from the reporting date, given the credit review policies, which require either continuous monitoring of key indicators and behavioral patterns for smaller positions or an annual formal review for any other limit. The ECLs for these products is sensitive to shortening or extending the maturity assumption.

Potential effect on stage 1 and stage 2 positions from changing scenario weights or moving to a lifetime ECL calculation as at 31 December 2019

	Actual ECL allowances and provisions (as per Note 10)		Pro forma ECL allowances and provisions, assuming application of 100% weighting								Pro forma ECL allowances and provisions, assuming all positions being subject to lifetime ECL	
Scenarios	Weighted average		Baseline		Upside		Mild downside		Severe downside		Weighted average	
USD million, except where indicated	ECL	in % of baseline	ECL	in % of baseline	ECL	in % of baseline	ECL	in % of baseline	ECL	in % of baseline	ECL	in % of baseline
Segmentation												
Private clients with mortgages	73	248	32	100	27	84	107	336	179	562	191	646
Real estate financing	55	169	35	100	28	81	61	175	128	368	82	251
Large corporate clients	48	151	32	100	28	87	39	120	106	329	95	296
SME clients	51	112	45	100	42	93	55	121	67	147	93	205
Other segments	113	127	90	100	78	87	126	140	166	185	252	283
Total	341	149	234	100	203	87	387	166	646	276	713	312

Note 24 Fair value measurement

This Note provides fair value measurement information for both financial and non-financial instruments and is structured as follows:
a) Valuation principles
b) Valuation governance
c) Fair value hierarchy
d) Valuation adjustments
e) Transfers between Level 1 and Level 2
f) Level 3 instruments: valuation techniques and inputs
g) Level 3 instruments: sensitivity to changes in unobservable input assumptions
h) Level 3 instruments: movements during the period
i) Maximum exposure to credit risk for financial instruments measured at fair value
j) Financial instruments not measured at fair value

a) Valuation principles

Fair value is defined as the price that would be received for the sale of an asset or paid to transfer a liability in an orderly transaction between market participants in the principal market (or most advantageous market, in the absence of a principal market) as of the measurement date. In measuring fair value, UBS uses various valuation approaches and applies a hierarchy for prices and inputs that maximizes the use of observable market data, if available.

All financial and non-financial assets and liabilities measured or disclosed at fair value are categorized into one of three fair value hierarchy levels in accordance with IFRS. The fair value hierarchy is based on the transparency of inputs to the valuation of an asset or liability as of the measurement. In certain cases, the inputs used to measure fair value may fall within different levels of the fair value hierarchy. For disclosure purposes, the level in the hierarchy within which the instrument is classified in its entirety is based on the lowest level input that is significant to the position's fair value measurement:
– Level 1 – quoted prices (unadjusted) in active markets for identical assets and liabilities;
– Level 2 – valuation techniques for which all significant inputs are, or are based on, observable market data; or
– Level 3 – valuation techniques for which significant inputs are not based on observable market data.

Fair values are determined using quoted prices in active markets for identical assets or liabilities, where available. An active market is one in which transactions for the asset or liability take place with sufficient frequency and volume to provide pricing data on an ongoing basis. Assets and liabilities that are quoted and traded in an active market are valued at the currently quoted price multiplied by the number of units of the instrument held.

Where the market for a financial instrument or non-financial asset or liability is not active, fair value is established using a valuation technique, including pricing models. Valuation techniques involve the use of estimates, the extent of which depends on the complexity of the instrument and the availability of market-based data. Valuation adjustments may be made to allow for additional factors, including model, liquidity, credit and funding risks, which are not explicitly captured within the valuation technique, but which would nevertheless be considered by market participants when establishing a price. The limitations inherent in a particular valuation technique are considered in the determination of an asset or liability's classification within the fair value hierarchy.

Many cash instruments and over-the-counter (OTC) derivative contracts have bid and offer prices that can be observed in the marketplace. Bid prices reflect the highest price that a party is willing to pay for an asset. Offer prices represent the lowest price that a party is willing to accept for an asset. In general, long positions are measured at a bid price and short positions at an offer price, reflecting the prices at which the instruments could be transferred under normal market conditions. Offsetting positions in the same financial instrument are marked at the mid-price within the bid–offer spread.

Generally, the unit of account for a financial instrument is the individual instrument, and UBS applies valuation adjustments at an individual instrument level, consistent with that unit of account. However, if certain conditions are met, UBS may estimate the fair value of a portfolio of financial assets and liabilities with substantially similar and offsetting risk exposures on the basis of the net open risks.

For transactions where the valuation technique used to measure fair value requires significant inputs that are not based on observable market data, the financial instrument is initially recognized at the transaction price. This initial recognition amount may differ from the fair value obtained using the valuation technique. Any such difference is deferred and not recognized in the income statement and referred to as deferred day-1 profit or loss.

→ **Refer to Note 24d for more information**

b) Valuation governance

UBS's fair value measurement and model governance framework includes numerous controls and other procedural safeguards that are intended to maximize the quality of fair value measurements reported in the financial statements. New products and valuation techniques must be reviewed and approved by key stakeholders from risk and finance control functions. Responsibility for the ongoing measurement of financial and non-financial instruments at fair value resides with the business divisions. In carrying out their valuation responsibilities, the businesses are required to consider the availability and quality of external market data and to provide justification and rationale for their fair value estimates.

Fair value estimates are validated by risk and finance control functions, which are independent of the business divisions. Independent price verification is performed by Finance through benchmarking the business divisions' fair value estimates with observable market prices and other independent sources. Controls and a governance framework are in place and are intended to ensure the quality of third-party pricing sources where used. For instruments where valuation models are used to determine fair value, independent valuation and model control groups within Finance and Risk Control evaluate UBS's models on a regular basis, including valuation and model input parameters as well as pricing. As a result of the valuation controls employed, valuation adjustments may be made to the business divisions' estimates of fair value to align with independent market data and the relevant accounting standard.

→ **Refer to Note 24d for more information**

Note 24 Fair value measurement (continued)

c) Fair value hierarchy

The table below provides the fair value hierarchy classification of financial and non-financial assets and liabilities measured at fair value. The narrative that follows describes the different product types, valuation techniques used in measuring their fair value, including significant valuation inputs and assumptions used, and the factors determining their classification within the fair value hierarchy.

Determination of fair values from quoted market prices or valuation techniques[1]

	31.12.19				31.12.18			
USD million	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Financial assets measured at fair value on a recurring basis								
Financial assets at fair value held for trading	113,635	12,248	1,812	127,695	88,455	14,096	1,962	104,513
of which:								
Equity instruments	*96,162*	*400*	*226*	*96,788*	*72,270*	*455*	*46*	*72,771*
Government bills / bonds	*9,630*	*1,770*	*64*	*11,464*	*9,554*	*1,607*	*0*	*11,161*
Investment fund units	*7,088*	*1,729*	*50*	*8,867*	*6,074*	*3,200*	*442*	*9,716*
Corporate and municipal bonds	*755*	*6,796*	*542*	*8,093*	*558*	*5,699*	*651*	*6,908*
Loans	*0*	*1,180*	*791*	*1,971*	*0*	*2,886*	*680*	*3,566*
Asset-backed securities	*0*	*372*	*140*	*512*	*0*	*248*	*144*	*392*
Derivative financial instruments	356	120,224	1,264	121,843	753	124,035	1,424	126,212
of which:								
Foreign exchange contracts	*240*	*52,228*	*8*	*52,476*	*311*	*53,151*	*30*	*53,492*
Interest rate contracts	*6*	*42,288*	*263*	*42,558*	*0*	*36,658*	*418*	*37,076*
Equity / index contracts	*7*	*22,220*	*597*	*22,825*	*3*	*30,905*	*496*	*31,404*
Credit derivative contracts	*0*	*1,612*	*394*	*2,007*	*0*	*1,444*	*476*	*1,920*
Commodity contracts	*0*	*1,820*	*0*	*1,821*	*0*	*1,768*	*2*	*1,769*
Brokerage receivables	0	18,007	0	18,007	0	16,840	0	16,840
Financial assets at fair value not held for trading	40,608	39,065	3,962	83,636	40,204	37,770	4,413	82,387
of which:								
Financial assets for unit-linked investment contracts[2]	*27,568*	*118*	*0*	*27,686*	*21,440*	*5*	*0*	*21,446*
Corporate and municipal bonds	*653*	*18,732*	*0*	*19,385*	*781*	*16,455*	*0*	*17,236*
Government bills / bonds	*12,089*	*3,700*	*0*	*15,790*	*17,687*	*4,806*	*0*	*22,493*
Loans	*0*	*10,206*	*1,231*	*11,438*	*0*	*6,380*	*1,752*	*8,132*
Securities financing transactions	*0*	*6,148*	*147*	*6,294*	*0*	*9,899*	*39*	*9,937*
Auction rate securities	*0*	*0*	*1,536*	*1,536*	*0*	*0*	*1,664*	*1,664*
Investment fund units	*194*	*140*	*98*	*432*	*173*	*125*	*109*	*407*
Equity instruments	*103*	*4*	*451*	*559*	*123*	*62*	*517*	*702*
Other	*0*	*16*	*499*	*515*	*0*	*38*	*331*	*369*
Financial assets measured at fair value through other comprehensive income on a recurring basis								
Financial assets measured at fair value through other comprehensive income	1,906	4,439	0	6,345	2,319	4,347	0	6,667
of which:								
Asset-backed securities	*0*	*3,955*	*0*	*3,955*	*0*	*3,931*	*0*	*3,931*
Government bills / bonds	*1,859*	*16*	*0*	*1,875*	*2,171*	*69*	*0*	*2,239*
Corporate and municipal bonds	*47*	*468*	*0*	*515*	*149*	*348*	*0*	*497*
Non-financial assets measured at fair value on a recurring basis								
Precious metals and other physical commodities	4,597	0	0	4,597	4,298	0	0	4,298
Non-financial assets measured at fair value on a non-recurring basis								
Other non-financial assets[3]	0	0	199	199	0	82	0	82
Total assets measured at fair value	161,102	193,983	7,237	362,322	136,029	197,170	7,800	340,999

Note 24 Fair value measurement (continued)

Determination of fair values from quoted market prices or valuation techniques (continued)[1]

	31.12.19				31.12.18			
USD million	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Financial liabilities measured at fair value on a recurring basis								
Financial liabilities at fair value held for trading	25,791	4,726	75	30,591	24,413	4,468	69	28,949
of which:								
Equity instruments	*22,526*	*149*	*59*	*22,734*	*21,313*	*537*	*42*	*21,892*
Corporate and municipal bonds	*40*	*3,606*	*16*	*3,661*	*126*	*3,377*	*27*	*3,530*
Government bills / bonds	*2,820*	*646*	*0*	*3,466*	*2,423*	*416*	*0*	*2,839*
Investment fund units	*404*	*294*	*0*	*698*	*551*	*137*	*0*	*689*
Derivative financial instruments	385	118,498	1,996	120,880	580	122,933	2,210	125,723
of which:								
Foreign exchange contracts	*248*	*53,705*	*60*	*54,013*	*322*	*52,964*	*86*	*53,372*
Interest rate contracts	*7*	*36,434*	*130*	*36,571*	*7*	*32,511*	*226*	*32,743*
Equity / index contracts	*3*	*24,171*	*1,293*	*25,468*	*1*	*33,669*	*1,371*	*35,041*
Credit derivative contracts	*0*	*2,448*	*512*	*2,960*	*0*	*2,203*	*519*	*2,722*
Commodity contracts	*0*	*1,707*	*0*	*1,707*	*0*	*1,487*	*0*	*1,487*
Financial liabilities designated at fair value on a recurring basis								
Brokerage payables designated at fair value	0	37,233	0	37,233	0	38,420	0	38,420
Debt issued designated at fair value	0	56,943	9,649	66,592	0	46,074	10,957	57,031
Other financial liabilities designated at fair value	0	35,119	1,039	36,157	0	32,569	1,025	33,594
of which:								
Financial liabilities related to unit-linked investment contracts	*0*	*28,145*	*0*	*28,145*	*0*	*21,679*	*0*	*21,679*
Securities financing transactions	*0*	*5,742*	*0*	*5,742*	*0*	*9,461*	*0*	*9,461*
Over-the-counter debt instruments	*0*	*1,231*	*791*	*2,022*	*0*	*1,427*	*1,023*	*2,450*
Total liabilities measured at fair value	26,176	252,518	12,759	291,452	24,992	244,465	14,260	283,717

1 Bifurcated embedded derivatives are presented on the same balance sheet lines as their host contracts and are not included in this table. The fair value of these derivatives was not material for the periods presented. 2 Fair value hierarchy information for Financial assets for unit-linked investment contracts in the comparative period has been restated, resulting in an increase in Level 1 assets of USD 4,746 million as of 31 December 2018, with a corresponding decrease in Level 2 assets. 3 Other non-financial assets primarily consist of properties and other non-current assets held for sale, which are measured at the lower of their net carrying amount or fair value less costs to sell.

Note 24 Fair value measurement (continued)

Valuation techniques

Valuation techniques are used to value positions for which a market price is not available from active market sources. This includes certain less liquid debt and equity instruments, certain exchange-traded derivatives and all derivatives transacted in the OTC market. UBS uses widely recognized valuation techniques for determining the fair value of financial and non-financial instruments that are not actively traded and quoted. The most frequently applied valuation techniques include discounted value of expected cash flows, relative value and option pricing methodologies.

Discounted value of expected cash flows is a valuation technique that measures fair value using estimated expected future cash flows from assets or liabilities and then discounts these cash flows using a discount rate or discount margin that reflects the credit and/or funding spreads required by the market for instruments with similar risk and liquidity profiles to produce a present value. When using such valuation techniques, expected future cash flows are estimated using an observed or implied market price for the future cash flows or by using industry standard cash flow projection models. The discount factors within the calculation are generated using industry standard yield curve modeling techniques and models.

Relative value models measure fair value based on the market prices of equivalent or comparable assets or liabilities, making adjustments for differences between the characteristics of the observed instrument and the instrument being valued.

Option pricing models incorporate assumptions regarding the behavior of future price movements of an underlying referenced asset or assets to generate a probability-weighted future expected payoff for the option. The resulting probability-weighted expected payoff is then discounted using discount factors generated from industry standard yield curve modeling techniques and models. The option pricing model may be implemented using a closed-form analytical formula or other mathematical techniques (e.g., binomial tree or Monte Carlo simulation).

Where available, valuation techniques use market-observable assumptions and inputs. If such data is not available, inputs may be derived by reference to similar assets in active markets, from recent prices for comparable transactions or from other observable market data. In such cases, the inputs selected are based on historical experience and practice for similar or analogous instruments, derivation of input levels based on similar products with observable price levels and knowledge of current market conditions and valuation approaches.

For more complex instruments, fair values may be estimated using a combination of observed transaction prices, consensus pricing services and relevant quotes. Consideration is given to the nature of the quotes (e.g., indicative or firm) and the relationship of recently evidenced market activity to the prices provided by consensus pricing services. UBS also uses internally developed models, which are typically based on valuation methods and techniques recognized as standard within the industry.

Assumptions and inputs used in valuation techniques include benchmark interest rate curves, credit and funding spreads used in estimating discount rates, bond and equity prices, equity index prices, foreign exchange rates, levels of market volatility and correlation. Refer to Note 24f for more information. The discount curves used by UBS incorporate the funding and credit characteristics of the instruments to which they are applied.

Financial instruments excluding derivatives: product description, valuation and classification in the fair value hierarchy

Government bills and bonds

Product description: government bills and bonds include fixed-rate, floating-rate and inflation-linked bills and bonds issued by sovereign governments.

Valuation: these instruments are generally valued using prices obtained directly from the market. Instruments that cannot be priced directly using active-market data are valued using discounted cash flow valuation techniques that incorporate market data for similar government instruments.

Fair value hierarchy: government bills and bonds are generally traded in active markets with prices that can be obtained directly from these markets, resulting in classification as Level 1, while the remaining positions are classified as Level 2 and Level 3.

Corporate and municipal bonds

Product description: corporate bonds include senior, junior and subordinated debt issued by corporate entities. Municipal bonds are issued by state and local governments. While most instruments are standard fixed- or floating-rate securities, some may have more complex coupon or embedded option features.

Valuation: corporate and municipal bonds are generally valued using prices obtained directly from the market for the security, or similar securities, adjusted for seniority, maturity and liquidity. When prices are not available, instruments are valued using discounted cash flow valuation techniques incorporating the credit spread of the issuer or similar issuers. For convertible bonds where no directly comparable price is available, issuances may be priced using a convertible bond model.

Fair value hierarchy: corporate and municipal bonds are generally classified as Level 1 or Level 2 depending on the depth of trading activity behind price sources. Level 3 instruments have no suitable pricing information available and also cannot be referenced to other securities issued by the same issuer. Therefore, such instruments are measured based on price levels for similar issuers adjusted for relative tenor and issuer quality.

Traded loans and loans designated at fair value

Product description: these instruments include fixed-rate loans, corporate loans, recently originated commercial real estate loans and contingent lending transactions.

Valuation: loans are valued directly using market prices that reflect recent transactions or quoted dealer prices, where available. Where no market price data is available, loans are valued by relative value benchmarking using pricing derived from debt instruments in comparable entities or different products in the same entity, or by using a credit default swap valuation technique, which requires inputs for credit spreads, credit recovery rates and interest rates. Recently originated commercial real estate loans are measured using a securitization approach based on rating agency guidelines. The valuation of the contingent lending transactions is dependent on actuarial mortality levels and actuarial life insurance policy lapse rates. Mortality and lapse rate assumptions are based on external actuarial estimations for large homogeneous pools, and contingencies are derived from a range relative to the actuarially expected amount.

Fair value hierarchy: instruments with suitably deep and liquid pricing information are classified as Level 2, while any positions requiring the use of valuation techniques, or for which the price sources have insufficient trading depth, are classified as Level 3.

Investment fund units

Product description: investment fund units are pools of assets, generally equity instruments and bonds, broken down to redeemable units.

Valuation: investment fund units are predominantly exchange-traded, with readily available quoted prices in liquid markets. Where market prices are not available, fair value may be measured using net asset values (NAVs), taking into account any restrictions imposed upon redemption.

Fair value hierarchy: listed units are classified as Level 1, provided there is sufficient trading activity to justify active-market classification, while other positions are classified as Level 2. Positions for which NAVs are not available or that are not redeemable at the measurement date or shortly thereafter are classified as Level 3.

Asset-backed securities

Product description: asset-backed securities (ABS) include residential mortgage-backed securities (RMBS), commercial mortgage-backed securities (CMBS), collateralized debt obligations (CDO) and other ABS and are instruments generally issued through the process of securitization of underlying interest-bearing assets.

Valuation: for liquid securities, the valuation process will use trade and price data, updated for movements in market levels between the time of trading and the time of valuation. Less liquid instruments are measured using discounted expected cash flows incorporating price data for instruments or indices with similar risk profiles. Inputs to discounted expected cash flow techniques include asset prepayment rates, discount margin or discount yields and asset default and recovery rates.

Fair value hierarchy: RMBS, CMBS and other ABS are generally classified as Level 2. However, if significant inputs are unobservable, or if market or fundamental data is not available, they are classified as Level 3.

Auction rate securities

Product description: auction rate securities (ARS) are debt or preferred equity securities that have interest rates that are reset through a periodic auction and, in the event of a failed auction, to a maximum rate as defined by each deal's prospectus. ARS are generally structured as bonds with long-term maturities (20–30 years) or preferred shares (issued by closed-end funds).

Valuation: ARS are valued using market prices that reflect recent transactions after applying an adjustment for trade size or quoted dealer prices, where available.

Fair value hierarchy: suitably deep and liquid pricing information is generally not available for ARS. As a result, these securities are classified as Level 3.

Equity instruments

Product description: equity instruments include stocks and shares, private equity positions and units held in hedge funds.

Valuation: listed equity instruments are generally valued using prices obtained directly from the market. Unlisted equity holdings, including private equity positions, are initially marked at their transaction price and are revalued when reliable evidence of price movement becomes available or when the position is deemed to be impaired. Fair value for units held in hedge funds is measured based on their published NAVs, taking into account any restrictions imposed upon redemption.

Fair value hierarchy: the majority of equity securities are actively traded on public stock exchanges where quoted prices are readily and regularly available, resulting in Level 1 classification. Units held in hedge funds are classified as Level 2, except for positions for which published NAVs are not available or that are not redeemable at the measurement date or shortly thereafter, in which case such positions are classified as Level 3.

Financial assets for unit-linked investment contracts

Product description: unit-linked investment contracts allow investors to invest in a pool of assets through issued investment units.

Valuation: the majority of assets are listed on exchanges and fair values are determined using quoted prices.

Fair value hierarchy: most assets are classified as Level 1 if actively traded, or Level 2 if trading is not active. However, instruments for which prices are not readily available are classified as Level 3.

Note 24 Fair value measurement (continued)

Securities financing transactions

Product description: securities financing transactions include (reverse) repurchase agreements (securities purchased under resale agreements and securities sold under repurchase agreements) that are managed on a fair value basis.

Valuation: these instruments are valued using discounted expected cash flow techniques. The discount rate applied is based on funding curves that are relevant to the collateral eligibility terms for the contract in question.

Fair value hierarchy: collateral funding curves for these instruments are generally observable and, as a result, these positions are classified as Level 2. Where the collateral terms are non-standard, the funding curve may be considered unobservable and these positions are classified as Level 3.

Brokerage receivables and payables

Product description: brokerage receivables and payables include callable, on-demand balances, including long cash credits, short cash debits, margin debit balances and short sale proceeds.

Valuation: fair value is determined based on the value of the underlying balances.

Fair value hierarchy: due to their on-demand nature, these receivables and payables are designated as Level 2.

Financial liabilities designated at fair value

Product description: debt instruments, primarily comprised of equity-, rates- and credit-linked issued notes, which are held at fair value under the fair value option. These instruments are tailored specifically to the holder's risk or investment appetite with structured coupons or payoffs.

Valuation: the risk management and the valuation approaches for these instruments are closely aligned with the equivalent derivatives business and the underlying risk, and the valuation techniques used for this component are the same as the relevant valuation techniques described below. For example, equity-linked notes should be referenced to equity / index contracts and credit-linked notes should be referenced to credit derivative contracts.

Fair value hierarchy: observability is closely aligned with the equivalent derivatives business and the underlying risk.

→ **Refer to Notes 19 and 22 for information about debt issued designated at fair value and other financial liabilities designated at fair value**

→ **Refer to Note 24d for more information about own credit adjustments related to financial liabilities designated at fair value**

Amounts due under unit-linked investment contracts

Product description: the financial liability represents the amounts due to unit holders.

Valuation: the fair values of investment contract liabilities are determined by reference to the fair value of the corresponding assets.

Fair value hierarchy: the liabilities themselves are not actively traded, but are mainly referenced to instruments that are actively traded and are therefore classified as Level 2.

Derivative instruments: product description, valuation and classification in the fair value hierarchy

The curves used for discounting expected cash flows in the valuation of collateralized derivatives reflect the funding terms associated with the relevant collateral arrangement for the instrument being valued. These collateral arrangements differ across counterparties with respect to the eligible currency and interest terms of the collateral. The majority of collateralized derivatives are measured using a discount curve that is based on funding rates derived from overnight interest in the cheapest eligible currency for the respective counterparty collateral agreement.

Uncollateralized and partially collateralized derivatives are discounted using the LIBOR (or equivalent) curve for the currency of the instrument. As described in Note 24d, the fair value of uncollateralized and partially collateralized derivatives is then adjusted by CVA, DVA and FVA as applicable, to reflect an estimation of the effect of counterparty credit risk, UBS's own credit risk and funding costs and benefits.

Interest rate contracts

Product description: interest rate swap contracts include interest rate swaps, basis swaps, cross-currency swaps, inflation swaps and interest rate forwards, often referred to as forward rate agreements (FRA). Interest rate option contracts include caps and floors, swaptions, swaps with complex payoff profiles and other more complex interest rate options.

Valuation: interest rate swap contracts are valued by estimating future interest cash flows and discounting those cash flows using a rate that reflects the appropriate funding rate for the position being measured. The yield curves used to estimate future index levels and discount rates are generated using market standard yield curve models using interest rates associated with current market activity. The key inputs to the models are interest rate swap rates, FRA rates, short-term interest rate futures prices, basis swap spreads and inflation swap rates. Interest rate option contracts are valued using various market standard option models, using inputs that include interest rate yield curves, inflation curves, volatilities and correlations. The volatility and correlation inputs within the models are implied from market data based on market-observed prices for standard option instruments trading within the market. Option models used to value more exotic products have a number of model parameter inputs that require calibration to enable the exotic model to price standard option instruments to the price levels observed in the market. When the maturity of the interest rate swap or option contract exceeds the term for which standard market quotes are observable for a significant input parameter, the contracts are valued by extrapolation from the last observable point using standard assumptions or by reference to another observable comparable input parameter to represent a suitable proxy for that portion of the term.

Fair value hierarchy: the majority of interest rate swaps are classified as Level 2 as the standard market contracts that form the inputs for yield curve models are generally traded in active and observable markets. Options are generally treated as Level 2 as the calibration process enables the model output to be validated to active-market levels. Models calibrated in this way are then used to revalue the portfolio of both standard options and more exotic products. In most cases, there are active and observable markets for the standard market instruments that form the inputs for yield curve models as well as the financial instruments from which volatility and correlation inputs are derived. Exotic options for which appropriate volatility or correlation input levels cannot be implied from observable market data are classified as Level 3. Interest rate swap or option contracts are classified as Level 3 when the term exceeds standard market-observable quotes.

Credit derivative contracts

Product description: a credit derivative is a financial instrument that transfers credit risk related to a single underlying entity, a portfolio of underlying entities or a pool of securitized referenced assets. Credit derivative products include credit default swaps (CDSs) on single names, indices and securitized products, plus first to default swaps and certain total return swaps.

Valuation: credit derivative contracts are valued using industry standard models based primarily on market credit spreads, upfront pricing points and implied recovery rates. Where a derivative credit spread is not directly available, it may be derived from the price of the reference cash bond. Asset-backed credit derivatives are valued using a valuation technique similar to that of the underlying security with an adjustment to reflect the funding differences between cash and synthetic form. Inputs include prepayment rates, default rates, loss severity, discount margin / rate.

Fair value hierarchy classification: single-entity and portfolio credit derivative contracts are classified as Level 2 when credit spreads and recovery rates are determined from actively traded observable market data. Where the underlying reference name(s) are not actively traded and the correlation cannot be directly mapped to actively traded tranche instruments, these contracts are classified as Level 3. Asset-backed credit derivatives follow the characteristics of the underlying security and are therefore distributed across Level 2 and Level 3.

Foreign exchange contracts

Product description: this includes open spot and forward foreign exchange (FX) contracts and OTC FX option contracts. OTC FX option contracts include standard call and put options, options with multiple exercise dates, path-dependent options, options with averaging features, options with discontinuous payoff characteristics, options on a number of underlying FX rates and multi-dimensional FX option contracts, which have a dependency on multiple FX pairs.

Valuation: open spot FX contracts are valued using the FX spot rate observed in the market. Forward FX contracts are valued using the FX spot rate adjusted for forward pricing points observed from standard market-based sources. OTC FX option contracts are valued using market standard option valuation models. The models used for shorter-dated options (i.e., maturities of five years or less) tend to be different than those used for longer-dated options because the models needed for longer-dated OTC FX contracts require additional consideration of interest rate and FX rate interdependency. Inputs to the option valuation models include spot FX rates, FX forward points, FX volatilities, interest rate yield curves, interest rate volatilities and correlations. The inputs for volatility and correlation are implied through the calibration of observed prices for standard option contracts trading within the market. The valuation for multi-dimensional FX options uses a multi-local volatility model, which is calibrated to the observed FX volatilities for all relevant FX pairs.

Fair value hierarchy: the markets for both FX spot and FX forward pricing points are both actively traded and observable and therefore such FX contracts are generally classified as Level 2. A significant proportion of OTC FX option contracts are classified as Level 2 as inputs are derived mostly from standard market contracts traded in active and observable markets. OTC FX option contracts classified as Level 3 include multi-dimensional FX options and long-dated FX exotic option contracts where there is no active market from which to derive volatility or correlation inputs.

Equity / index contracts

Product description: equity / index contracts are equity forward contracts and equity option contracts. Equity option contracts include market standard single or basket stock or index call and put options as well as equity option contracts with more complex features.

Note 24 Fair value measurement (continued)

Valuation: equity forward contracts have a single stock or index underlying and are valued using market standard models. The key inputs to the models are stock prices, estimated dividend rates and equity funding rates (which are implied from prices of forward contracts observed in the market). Estimated cash flows are then discounted using market standard discounted cash flow models using a rate that reflects the appropriate funding rate for that portion of the portfolio. When no market data is available for the instrument maturity, they are valued by extrapolation of available data, use of historical dividend data, or use of data for a related equity. Equity option contracts are valued using market standard models that estimate the equity forward level as described for equity forward contracts and incorporate inputs for stock volatility and for correlation between stocks within a basket. The probability-weighted expected option payoff generated is then discounted using market standard discounted cash flow models applying a rate that reflects the appropriate funding rate for that portion of the portfolio. When volatility, forward or correlation inputs are not available, they are valued using extrapolation of available data, historical dividend, correlation or volatility data, or the equivalent data for a related equity.

Fair value hierarchy: as inputs are derived mostly from standard market contracts traded in active and observable markets, a significant proportion of equity forward contracts are classified as Level 2. Equity option positions for which inputs are derived from standard market contracts traded in active and observable markets are also classified as Level 2. Level 3 positions are those for which volatility, forward or correlation inputs are not observable.

Commodity contracts

Product description: commodity derivative contracts include forward, swap and option contracts on individual commodities and on commodity indices.

Valuation: commodity forward and swap contracts are measured using market standard models that use market forward levels on standard instruments. Commodity option contracts are measured using market standard option models that estimate the commodity forward level as described for commodity forward and swap contracts, incorporating inputs for the volatility of the underlying index or commodity. For commodity options on baskets of commodities or bespoke commodity indices, the valuation technique also incorporates inputs for the correlation between different commodities or commodity indices.

Fair value hierarchy: individual commodity contracts are typically classified as Level 2 because active forward and volatility market data is available.

→ **Refer to Note 11 for more information about derivative instruments**

d) Valuation adjustments

The output of a valuation technique is always an estimate of a fair value that cannot be measured with complete certainty. As a result, valuations are adjusted, where appropriate and when such factors would be considered by market participants in estimating fair value, to reflect close-out costs, credit exposure, model-driven valuation uncertainty, funding costs and benefits, trading restrictions and other factors. Valuation adjustments are an important component of fair value for assets and liabilities that are measured using valuation techniques. Such adjustments are applied to reflect uncertainties within the fair value measurement process, to adjust for an identified model simplification or to incorporate an aspect of fair value that requires an overall portfolio assessment rather than an evaluation based on an individual instrument level characteristic.

Deferred day-1 profit or loss reserves

For new transactions where the valuation technique used to measure fair value requires significant inputs that are not based on observable market data, the financial instrument is initially recognized at the transaction price. The transaction price may differ from the fair value obtained using a valuation technique, where any such difference is deferred and not initially recognized in the income statement. These day-1 profit or loss reserves are reflected, where appropriate, as valuation adjustments.

Deferred day-1 profit or loss is generally released into *Other net income from financial instruments measured at fair value through profit or loss* when pricing of equivalent products or the underlying parameters become observable or when the transaction is closed out.

The table on the next page summarizes the changes in deferred day-1 profit or loss reserves during the respective period.

Note 24 Fair value measurement (continued)

Deferred day-1 profit or loss reserves

USD million	2019	2018	2017
Reserve balance at the beginning of the year	255	338	365
Profit / (loss) deferred on new transactions	171	341	247
(Profit) / loss recognized in the income statement	(278)	(417)	(279)
Foreign currency translation	(2)	(6)	6
Reserve balance at the end of the year	146	255	338

Own credit

The valuation of financial liabilities designated at fair value requires consideration of the own credit component of fair value. Own credit risk is reflected in the valuation of UBS's fair value option liabilities where this component is considered relevant for valuation purposes by UBS's counterparties and other market participants. However, own credit risk is not reflected in the valuation of UBS's liabilities that are fully collateralized or for other obligations for which it is established market practice not to include an own credit component.

Changes in the fair value of financial liabilities designated at fair value through profit or loss related to own credit are recognized in *Other comprehensive income* directly within *Retained earnings*. As UBS does not hedge changes in own credit arising on financial liabilities designated at fair value, presenting own credit within *Other comprehensive income* does not create or increase an accounting mismatch in the income statement. The unrealized and any realized own credit recognized in *Other comprehensive income* will not be reclassified to the income statement in future periods.

Own credit is estimated using an Own Credit Adjustment (OCA) curve, which incorporates observable market data, including market-observed secondary prices for UBS senior debt, UBS credit default swap (CDS) spreads and senior debt curves of peers. The table below summarizes the effects of own credit adjustments related to financial liabilities designated at fair value. The change in unrealized own credit consists of changes in fair value that are attributable to the change in UBS's credit spreads, as well as the effect of changes in fair values attributable to factors other than credit spreads, such as redemptions, effects from time decay and changes in interest and other market rates. Realized own credit is recognized when an instrument with an associated unrealized own credit adjustment is repurchased prior to the contractual maturity date. Life-to-date amounts reflect the cumulative unrealized change since initial recognition.

→ **Refer to Note 19 for more information about debt issued designated at fair value**

Own credit adjustments on financial liabilities designated at fair value

	For the year ended		
	Included in Other comprehensive income		
USD million	31.12.19	31.12.18	31.12.17
Recognized during the year:			
Realized gain / (loss)	8	(3)	22
Unrealized gain / (loss)	(408)	519	(337)
Total gain / (loss), before tax	(400)	517	(315)

	As of		
USD million	31.12.19	31.12.18	31.12.17
Recognized on the balance sheet as of the end of the year:			
Unrealized life-to-date gain / (loss)	(88)	320	(200)

Note 24 Fair value measurement (continued)

Credit valuation adjustments
In order to measure the fair value of OTC derivative instruments, including funded derivative instruments that are classified as *Financial assets at fair value not held for trading,* credit valuation adjustments (CVAs) are necessary to reflect the credit risk of the counterparty inherent in these instruments. This amount represents the estimated fair value of protection required to hedge the counterparty credit risk of such instruments. A CVA is determined for each counterparty, considering all exposures to that counterparty, and is dependent on the expected future value of exposures, default probabilities and recovery rates, applicable collateral or netting arrangements, break clauses, funding spreads and other contractual factors.

Funding valuation adjustments
Funding valuation adjustments (FVAs) reflect the costs and benefits of funding associated with uncollateralized and partially collateralized derivative receivables and payables and are calculated as the valuation effect from moving the discounting of the uncollateralized derivative cash flows from LIBOR to OCA using the CVA framework, including the probability of counterparty default. An FVA is also applied to collateralized derivative assets in cases where the collateral cannot be sold or repledged.

Debit valuation adjustments
A debit valuation adjustment (DVA) is estimated to incorporate own credit in the valuation of derivatives, effectively consistent with the CVA framework. A DVA is determined for each counterparty, considering all exposures with that counterparty and taking into account collateral netting agreements, expected future mark-to-market movements and UBS's credit default spreads.

Other valuation adjustments
Instruments that are measured as part of a portfolio of combined long and short positions are valued at mid-market levels to ensure consistent valuation of the long- and short-component risks. A liquidity valuation adjustment is then made to the overall net long or short exposure to move the fair value to bid or offer as appropriate, reflecting current levels of market liquidity. The bid–offer spreads used in the calculation of this valuation adjustment are obtained from market transactions and other relevant sources and are updated periodically.

Uncertainties associated with the use of model-based valuations are incorporated into the measurement of fair value through the use of model reserves. These reserves reflect the amounts that UBS estimates should be deducted from valuations produced directly by models to incorporate uncertainties in the relevant modeling assumptions, in the model and market inputs used, or in the calibration of the model output to adjust for known model deficiencies. In arriving at these estimates, UBS considers a range of market practices, including how it believes market participants would assess these uncertainties. Model reserves are reassessed periodically in light of data from market transactions, consensus pricing services and other relevant sources.

Valuation adjustments on financial instruments

	As of	
Life-to-date gain / (loss), USD million	31.12.19	31.12.18
Credit valuation adjustments[1]	(48)	(90)
Funding valuation adjustments	(50)	(85)
Debit valuation adjustments	1	1
Other valuation adjustments	(566)	(716)
of which: liquidity	*(300)*	*(388)*
of which: model uncertainty	*(266)*	*(327)*

1 Amounts do not include reserves against defaulted counterparties.

e) Transfers between Level 1 and Level 2

The amounts disclosed in this section reflect transfers between Level 1 and Level 2 for instruments that were held for the entire reporting period.

Assets and liabilities transferred from Level 2 to Level 1 during 2019 were not material. Assets and liabilities transferred from Level 1 to Level 2 during 2019 were also not material.

Note 24 Fair value measurement (continued)

f) Level 3 instruments: valuation techniques and inputs

The table below presents material Level 3 assets and liabilities together with the valuation techniques used to measure fair value, the significant inputs used in a given valuation technique that are considered unobservable and a range of values for those unobservable inputs. Several inputs disclosed in prior periods are not disclosed in the table below because they are not considered significant to the respective valuation technique as of 31 December 2019.

The range of values represents the highest- and lowest-level input used in the valuation techniques. Therefore, the range does not reflect the level of uncertainty regarding a particular input or an assessment of the reasonableness of UBS's estimates and assumptions, but rather the different underlying characteristics of the relevant assets and liabilities held by UBS. The ranges will therefore vary from period to period and parameter to parameter based on characteristics of the instruments held at each balance sheet date. Furthermore, the ranges of unobservable inputs may differ across other financial institutions, reflecting the diversity of the products in each firm's inventory.

Valuation techniques and inputs used in the fair value measurement of Level 3 assets and liabilities

	Fair value						Range of inputs						
	Assets		Liabilities				31.12.19			31.12.18			
USD billion	31.12.19	31.12.18	31.12.19	31.12.18	Valuation technique(s)	Significant unobservable input(s)[1]	low	high	weighted average[2]	low	high	weighted average[2]	unit[1]
Financial assets and liabilities at fair value held for trading and Financial assets at fair value not held for trading													
Corporate and municipal bonds	*0.5*	*0.7*	*0.0*	*0.0*	Relative value to market comparable	Bond price equivalent	0	143	101	0	134	89	points
Traded loans, loans designated at fair value, loan commitments and guarantees	*2.4*	*2.7*	*0.0*	*0.0*	Relative value to market comparable	Loan price equivalent	0	101	99	0	100	99	points
					Discounted expected cash flows	Credit spread	225	530		301	513		basis points
					Market comparable and securitization model	Discount margin	0	14	2	1	14	2	%
Auction rate securities	*1.5*	*1.7*			Relative value to market comparable	Bond price equivalent	79	98	88	79	99	89	points
Investment fund units[3]	*0.1*	*0.6*	*0.0*	*0.0*	Relative value to market comparable	Net asset value							
Equity instruments[3]	*0.7*	*0.6*	*0.1*	*0.0*	Relative value to market comparable	Price							
Debt issued designated at fair value[4]			*9.6*	*11.0*									
Other financial liabilities designated at fair value[4]			*1.0*	*1.0*									
Derivative financial instruments													
Interest rate contracts	*0.3*	*0.4*	*0.1*	*0.2*	Option model	Volatility of interest rates	15	63		50	81		basis points
Credit derivative contracts	*0.4*	*0.5*	*0.5*	*0.5*	Discounted expected cash flows	Credit spreads	1	700		4	545		basis points
						Bond price equivalent	0	100		3	99		points
Equity / index contracts	*0.6*	*0.5*	*1.3*	*1.4*	Option model	Equity dividend yields	0	14		0	12		%
						Volatility of equity stocks, equity and other indices	4	105		4	93		%
						Equity-to-FX correlation	(45)	71		(39)	67		%
						Equity-to-equity correlation	(17)	98		(50)	97		%

1 The ranges of significant unobservable inputs are represented in points, percentages and basis points. Points are a percentage of par (e.g., 100 points would be 100% of par). 2 Weighted averages are provided for non-derivative financial instruments and were calculated by weighting inputs based on the fair values of the respective instruments. Weighted averages are not provided for inputs related to derivative contracts as this would not be meaningful. 3 The range of inputs is not disclosed as there is a dispersion of values given the diverse nature of the investments. 4 Valuation techniques, significant unobservable inputs and the respective input ranges for Debt issued designated at fair value and Other financial liabilities designated at fair value, which are primarily comprised of over-the-counter debt instruments, are the same as the equivalent derivative or structured financing instruments presented elsewhere in this table.

Note 24 Fair value measurement (continued)

Significant unobservable inputs in Level 3 positions

This section discusses the significant unobservable inputs used in the valuation of Level 3 instruments and assesses the potential effect that a change in each unobservable input in isolation may have on a fair value measurement, including information to facilitate an understanding of factors that give rise to the input ranges shown. Relationships between observable and unobservable inputs have not been included in the summary below.

Bond price equivalent

Where market prices are not available for a bond, fair value is measured by comparison with observable pricing data from similar instruments. Factors considered when selecting comparable instruments include credit quality, maturity and industry of the issuer. Fair value may be measured either by a direct price comparison or by conversion of an instrument price into a yield (either as an outright yield or as a spread to LIBOR). Bond prices are expressed as points of the nominal, where 100 represents a fair value equal to the nominal value (i.e., par).

For corporate and municipal bonds, the range represents the range of prices from reference issuances used in determining fair value. Bonds priced at 0 are distressed to the point that no recovery is expected, while prices significantly in excess of 100 or par relate to inflation-linked or structured issuances that pay a coupon in excess of the market benchmark as of the measurement date.

For credit derivatives, the bond price range represents the range of prices used for reference instruments, which are typically converted to an equivalent yield or credit spread as part of the valuation process.

Loan price equivalent

Where market prices are not available for a traded loan, fair value is measured by comparison with observable pricing data for similar instruments. Factors considered when selecting comparable instruments include industry segment, collateral quality, maturity and issuer-specific covenants. Fair value may be measured either by a direct price comparison or by conversion of an instrument price into a yield. The range represents the range of prices derived from reference issuances of a similar credit quality used in measuring fair value for loans classified as Level 3. Loans priced at 0 are distressed to the point that no recovery is expected, while a current price of 100 represents a loan that is expected to be repaid in full.

Credit spread

Valuation models for many credit derivatives require an input for the credit spread, which is a reflection of the credit quality of the associated referenced underlying. The credit spread of a particular security is quoted in relation to the yield on a benchmark security or reference rate, typically either US Treasury or LIBOR, and is generally expressed in terms of basis points. An increase / (decrease) in credit spread will increase / (decrease) the value of credit protection offered by CDS and other credit derivative products. The income statement effect from such changes depends on the nature and direction of the positions held. Credit spreads may be negative where the asset is more creditworthy than the benchmark against which the spread is calculated. A wider credit spread represents decreasing creditworthiness. The range represents a diverse set of underlyings, with the lower end of the range representing credits of the highest quality (e.g., approximating the risk of LIBOR) and the upper end of the range representing greater levels of credit risk.

Discount margin (DM)

The DM spread represents the discount rates used to present value cash flows of an asset to reflect the market return required for uncertainty in the estimated cash flows. DM spreads are a rate or rates applied on top of a floating index (e.g., LIBOR) to discount expected cash flows. Generally, a decrease / (increase) in the DM in isolation would result in a higher / (lower) fair value.

The high end of the range relates to securities that are priced low within the market relative to the expected cash flow schedule. This indicates that the market is pricing an increased risk of credit loss into the security that is greater than what is being captured by the expected cash flow generation process. The low ends of the ranges are typical of funding rates on better-quality instruments.

Funding spread

Structured financing transactions are valued using synthetic funding curves that best represent the assets that are pledged as collateral for the transactions. They are not representative of where UBS can fund itself on an unsecured basis, but provide an estimate of where UBS can source and deploy secured funding with counterparties for a given type of collateral. The funding spreads are expressed in terms of basis points over or under LIBOR, and if funding spreads widen, this increases the effect of discounting.

A small proportion of structured debt instruments and non-structured fixed-rate bonds within financial liabilities designated at fair value had an exposure to funding spreads that was longer in duration than the actively traded market.

Volatility

Volatility measures the variability of future prices for a particular instrument and is generally expressed as a percentage, where a higher number reflects a more volatile instrument, for which future price movements are more likely to occur. The minimum level of volatility is 0% and there is no theoretical maximum. Volatility is a key input into option models, where it is used to derive a probability-based distribution of future prices for the underlying instrument. The effect of volatility on individual positions within the portfolio is driven primarily by whether the option contract is a long or short position. In most cases, the fair value of an option increases as a result of an increase in volatility and is reduced by a decrease in volatility. Generally, volatility used in the measurement of fair value is derived from active-market option prices (referred to as implied volatility). A key feature of implied volatility is the volatility "smile" or "skew," which represents the effect of pricing options of different option strikes at different implied volatility levels.

The volatility of interest rates reflects the range of unobservable volatilities across different currencies and related underlying interest rate levels. Volatilities of low interest rates tend to be much higher than volatilities of high interest rates. In addition, different currencies may have significantly different implied volatilities. The volatility of equity stocks, equity and other indices reflects the range of underlying stock volatilities.

Correlation

Correlation measures the interrelationship between the movements of two variables. It is expressed as a percentage between –100% and +100%, where +100% represents perfectly correlated variables (meaning a movement of one variable is associated with a movement of the other variable in the same direction) and –100% implies that the variables are inversely correlated (meaning a movement of one variable is associated with a movement of the other variable in the opposite direction). The effect of correlation on the measurement of fair value depends on the specific terms of the instruments being valued, reflecting the range of different payoff features within such instruments.

Equity-to-FX correlation is important for equity options based on a currency different than the currency of the underlying stock. Equity-to-equity correlation is particularly important for complex options that incorporate, in some manner, different equities in the projected payoff.

Equity dividend yields

The derivation of a forward price for an individual stock or index is important for measuring fair value for forward or swap contracts and for measuring fair value using option pricing models. The relationship between the current stock price and the forward price is based on a combination of expected future dividend levels and payment timings, and, to a lesser extent, the relevant funding rates applicable to the stock in question. Dividend yields are generally expressed as an annualized percentage of the share price with the lowest limit of 0% representing a stock that is not expected to pay any dividend. The dividend yield and timing represents the most significant parameter in determining fair value for instruments that are sensitive to an equity forward price.

Note 24 Fair value measurement (continued)

g) Level 3 instruments: sensitivity to changes in unobservable input assumptions

The table below summarizes those financial assets and liabilities classified as Level 3 for which a change in one or more of the unobservable inputs to reflect reasonably possible alternative assumptions would change fair value significantly, and the estimated effect thereof.

The table shown presents the favorable and unfavorable effects for each class of financial assets and liabilities for which the potential change in fair value is considered significant. The sensitivity data shown below presents an estimation of valuation uncertainty based on reasonably possible alternative values for Level 3 inputs at the balance sheet date and does not represent the estimated effect of stress scenarios. Typically, these financial assets and liabilities are sensitive to a combination of inputs from Levels 1–3. Although well-defined interdependencies may exist between Levels 1–2 and Level 3 parameters (e.g., between interest rates, which are generally Level 1 or Level 2, and prepayments, which are generally Level 3), these have not been incorporated in the table. Furthermore, direct interrelationships between the Level 3 parameters discussed below are not a significant element of the valuation uncertainty.

Sensitivity data is estimated using a number of techniques, including the estimation of price dispersion among different market participants, variation in modeling approaches and reasonably possible changes to assumptions used within the fair value measurement process. The sensitivity ranges are not always symmetrical around the fair values as the inputs used in valuations are not always precisely in the middle of the favorable and unfavorable range.

Sensitivity data is determined at a product or parameter level and then aggregated assuming no diversification benefit. The calculated sensitivity is applied to both the outright position and any related Level 3 hedge. The main interdependencies between sensitivities of different Level 3 products to a single unobservable input parameter have been included in the basis of netting exposures within the calculation. Aggregation without allowing for diversification involves the simple summation of individual results with the total sensitivity, therefore representing the effect of all unobservable inputs that, if moved to a reasonably possible favorable or unfavorable level at the same time, would result in a significant change in the valuation. Diversification would incorporate estimated correlations across different sensitivity results and, as such, would result in an overall sensitivity that would be less than the sum of the individual component sensitivities. UBS believes that, while there are diversification benefits within the portfolios representing these sensitivity numbers, they are not significant to this analysis.

Sensitivity of fair value measurements to changes in unobservable input assumptions

	31.12.19		31.12.18	
USD million	Favorable changes	Unfavorable changes	Favorable changes	Unfavorable changes
Traded loans, loans designated at fair value, loan commitments and guarantees	46	(21)	99	(44)
Securities financing transactions	11	(11)	17	(11)
Auction rate securities	87	(87)	81	(81)
Asset-backed securities	35	(40)	27	(23)
Equity instruments	140	(80)	155	(94)
Interest rate derivative contracts, net	8	(17)	8	(39)
Credit derivative contracts, net	31	(35)	33	(37)
Foreign exchange derivative contracts, net	12	(8)	10	(5)
Equity / index derivative contracts, net	183	(197)	213	(225)
Other	47	(51)	19	(19)
Total	600	(547)	661	(578)

h) Level 3 instruments: movements during the period

The table on the following pages presents additional information about material Level 3 assets and liabilities measured at fair value on a recurring basis. Level 3 assets and liabilities may be hedged with instruments classified as Level 1 or Level 2 in the fair value hierarchy and, as a result, realized and unrealized gains and losses included in the table may not include the effect of related hedging activity. Furthermore, the realized and unrealized gains and losses presented within the table are not limited solely to those arising from Level 3 inputs, as valuations are generally derived from both observable and unobservable parameters.

Assets and liabilities transferred into or out of Level 3 are presented as if those assets or liabilities had been transferred at the beginning of the year.

Upon adoption of IFRS 9 on 1 January 2018, certain financial assets and liabilities were newly classified at fair value through profit or loss and were designated as Level 3 in the fair value hierarchy. Certain assets were also reclassified from *Financial assets measured at fair value through other comprehensive income* to *Financial assets at fair value not held for trading*.

Assets transferred into and out of Level 3 totaled USD 1.1 billion and USD 1.9 billion, respectively. Transfers into Level 3 mainly consisted of loans, investment fund units and equity / index contracts, reflecting decreased observability of the relevant valuation inputs. Transfers out of Level 3 mainly consisted of loans, reflecting increased observability of the relevant valuation inputs.

Liabilities transferred into and out of Level 3 totaled USD 1.4 billion and USD 3.4 billion, respectively. Transfers into and out of Level 3 mainly consisted of debt issued designated at fair value, primarily equity-linked issued debt instruments, due to decreased or increased observability, respectively, of the embedded derivative inputs.

Note 24 Fair value measurement (continued)

Movements of Level 3 instruments

USD billion	Balance as of 31 December 2017	Reclassifi-cations and remeasure-ments upon adoption of IFRS 9	Balance as of 1 January 2018	Total gains / losses included in comprehensive income: Net gains / losses included in income[1]	Total gains / losses included in comprehensive income: *of which: related to Level 3 instruments held at the end of the reporting period*	Purchases	Sales	Issuances	Settlements	Transfers into Level 3	Transfers out of Level 3	Foreign currency translation
Financial assets at fair value held for trading	2.0	0.4	2.4	(0.2)	*(0.2)*	2.1	(7.1)	4.2	0.0	0.7	(0.2)	0.0
of which:												
Investment fund units	*0.6*		*0.6*	*(0.1)*	*(0.1)*	*0.2*	*(0.3)*	*0.0*	*0.0*	*0.1*	*(0.1)*	*0.0*
Corporate and municipal bonds	*0.6*		*0.6*	*0.0*	*0.0*	*0.6*	*(0.9)*	*0.0*	*0.0*	*0.5*	*0.0*	*0.0*
Loans	*0.5*	*0.4*	*0.9*	*0.1*	*0.0*	*0.9*	*(5.6)*	*4.2*	*0.0*	*0.1*	*0.0*	*0.0*
Other	*0.4*		*0.4*	*(0.1)*	*(0.1)*	*0.4*	*(0.4)*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Derivative financial instruments – assets	1.6		1.6	0.0	*0.0*	0.0	0.0	1.0	(1.5)	0.5	(0.1)	0.0
of which:												
Interest rate contracts	*0.1*		*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	*0.0*	*(0.1)*	*0.3*	*0.0*	*0.0*
Equity / index contracts	*0.7*		*0.7*	*0.0*	*0.0*	*0.0*	*0.0*	*0.8*	*(1.0)*	*0.1*	*(0.1)*	*0.0*
Credit derivative contracts	*0.6*		*0.6*	*0.0*	*0.0*	*0.0*	*0.0*	*0.3*	*(0.4)*	*0.0*	*0.0*	*0.0*
Other	*0.2*		*0.2*	*(0.1)*	*(0.1)*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Financial assets at fair value not held for trading	1.5	3.0	4.4	0.0	*0.0*	1.7	(1.9)	0.0	0.0	0.1	(0.1)	0.1
of which:												
Loans	*0.8*	*0.6*	*1.4*	*(0.2)*	*(0.2)*	*1.5*	*(1.0)*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*
Auction rate securities		*1.9*	*1.9*	*0.1*	*0.1*	*0.0*	*(0.4)*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*
Equity instruments		*0.4*	*0.4*	*0.1*	*0.1*	*0.2*	*(0.2)*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Other	*0.7*	*0.1*	*0.8*	*0.0*	*0.0*	*0.0*	*(0.4)*	*0.0*	*0.0*	*0.0*	*(0.1)*	*0.0*
Financial assets measured at fair value through other comprehensive income	0.5	(0.5)										
Derivative financial instruments – liabilities	2.9	0.0	2.9	(0.3)	*(0.2)*	0.0	0.0	1.3	(1.5)	0.3	(0.5)	0.0
of which:												
Equity / index contracts	*2.0*		*2.0*	*(0.3)*	*(0.2)*	*0.0*	*0.0*	*1.2*	*(1.2)*	*0.3*	*(0.5)*	*0.0*
Credit derivative contracts	*0.6*		*0.6*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*(0.2)*	*0.1*	*0.0*	*0.0*
Other	*0.3*	*0.0*	*0.3*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	*(0.1)*	*0.0*	*0.0*	*0.0*
Debt issued designated at fair value	11.2		11.2	0.5	*0.0*	0.0	0.0	5.8	(4.3)	2.2	(4.3)	(0.2)
Other financial liabilities designated at fair value	2.0		2.0	0.0	*0.0*	0.0	0.0	1.1	(2.0)	0.0	0.0	0.0

1 Net gains / losses included in comprehensive income are comprised of Net interest income, Other net income from financial instruments measured at fair value through profit or loss and Other income. 2 Total Level 3 assets as of 31 December 2019 were USD 7.2 billion (31 December 2018: USD 7.8 billion). Total Level 3 liabilities as of 31 December 2019 were USD 12.8 billion (31 December 2018: USD 14.3 billion).

Note 24 Fair value measurement (continued)

	Total gains / losses included in comprehensive income									
Balance as of 31 December 2018[2]	Net gains / losses included in income[1]	*of which: related to Level 3 instruments held at the end of the reporting period*	Purchases	Sales	Issuances	Settlements	Transfers into Level 3	Transfers out of Level 3	Foreign currency translation	Balance as of 31 December 2019[2]
2.0	(0.2)	*0.0*	1.2	(5.7)	4.4	0.0	0.6	(0.4)	0.0	1.8
0.4	*0.0*	*0.0*	*0.0*	*(0.4)*	*0.0*	*0.0*	*0.2*	*(0.2)*	*0.0*	*0.0*
0.7	*0.0*	*0.0*	*0.6*	*(0.6)*	*0.0*	*0.0*	*0.1*	*(0.2)*	*0.0*	*0.5*
0.7	*(0.1)*	*0.0*	*0.2*	*(4.4)*	*4.4*	*0.0*	*0.1*	*0.0*	*0.0*	*0.8*
0.2	*0.0*	*(0.1)*	*0.3*	*(0.3)*	*0.0*	*0.0*	*0.2*	*0.0*	*0.0*	*0.4*
1.4	(0.3)	*0.0*	0.0	0.0	1.0	(0.8)	0.2	(0.3)	0.0	1.3
0.4	*(0.1)*	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*(0.2)*	*0.0*	*0.3*
0.5	*(0.1)*	*0.1*	*0.0*	*0.0*	*0.6*	*(0.5)*	*0.1*	*(0.1)*	*0.0*	*0.6*
0.5	*(0.1)*	*(0.1)*	*0.0*	*0.0*	*0.2*	*(0.2)*	*0.1*	*(0.1)*	*0.0*	*0.4*
0.0	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
4.4	0.0	*0.0*	1.2	(0.8)	0.0	0.0	0.3	(1.2)	0.0	4.0
1.8	*0.0*	*0.0*	*0.7*	*(0.2)*	*0.0*	*0.0*	*0.3*	*(1.2)*	*0.0*	*1.2*
1.7	*0.0*	*0.0*	*0.0*	*(0.1)*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*1.5*
0.5	*0.0*	*0.0*	*0.1*	*(0.2)*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.5*
0.5	*0.0*	*0.0*	*0.5*	*(0.2)*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.7*
2.2	0.0	*0.0*	0.0	0.0	0.8	(1.0)	0.3	(0.3)	0.0	2.0
1.4	*0.3*	*0.2*	*0.0*	*0.0*	*0.6*	*(0.9)*	*0.2*	*(0.2)*	*0.0*	*1.3*
0.5	*(0.1)*	*(0.1)*	*0.0*	*0.0*	*0.2*	*(0.1)*	*0.1*	*(0.1)*	*0.0*	*0.5*
0.3	*(0.1)*	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*(0.1)*	*0.0*	*0.2*
11.0	1.1	*0.7*	0.0	0.0	6.9	(7.3)	1.0	(3.1)	0.0	9.6
1.0	0.2	*0.1*	0.0	0.0	0.6	(0.8)	0.1	0.0	0.0	1.0

Note 24 Fair value measurement (continued)

i) Maximum exposure to credit risk for financial instruments measured at fair value

The tables below provide UBS AG's maximum exposure to credit risk for financial instruments measured at fair value and the respective collateral and other credit enhancements mitigating credit risk for these classes of financial instruments.

The maximum exposure to credit risk includes the carrying amounts of financial instruments recognized on the balance sheet subject to credit risk and the notional amounts for off-balance sheet arrangements. Where information is available, collateral is presented at fair value. For other collateral, such as real estate, a reasonable alternative value is used. Credit enhancements, such as credit derivative contracts and guarantees, are included at their notional amounts. Both are capped at the maximum exposure to credit risk for which they serve as security. The "Risk management and control" section of this report describes management's view of credit risk and the related exposures, which can differ in certain respects from the requirements of IFRS.

Maximum exposure to credit risk

	31.12.19								
		Collateral				Credit enhancements			Exposure to credit risk after collateral and credit enhancements
USD billion	Maximum exposure to credit risk	Cash collateral received	Collateral-ized by securities	Secured by real estate	Other collateral[1]	Netting	Credit derivative contracts	Guarantees	
Financial assets measured at fair value on the balance sheet									
Financial assets at fair value held for trading – debt instruments[2, 3]	22.0								22.0
Derivative financial instruments[4]	121.8		3.3			107.4			11.1
Brokerage receivables	18.0	0.0	17.8						0.2
Financial assets at fair value not held for trading – debt instruments[5]	55.0	0.1	16.3		0.1				38.6
Total financial assets measured at fair value	216.8	0.1	37.4	0.0	0.1	107.4	0.0	0.0	71.9
Guarantees[6]	1.0							0.3	0.7
Loan commitments[6]	6.3				3.0		0.1	0.9	2.3
Forward starting transactions, reverse repurchase and securities borrowing agreements	20.3		20.3						0.0
Total maximum exposure to credit risk not reflected on the balance sheet	27.6	0.0	20.3	0.0	3.0	0.0	0.1	1.2	3.0

	31.12.18								
		Collateral				Credit enhancements			Exposure to credit risk after collateral and credit enhancements
USD billion	Maximum exposure to credit risk	Cash collateral received	Collateral-ized by securities	Secured by real estate	Other collateral[1]	Netting	Credit derivative contracts	Guarantees	
Financial assets measured at fair value on the balance sheet									
Financial assets at fair value held for trading – debt instruments[2, 3]	22.0								22.0
Derivative financial instruments[4]	126.2		4.1			110.8			11.4
Brokerage receivables	16.8	0.0	16.5						0.3
Financial assets at fair value not held for trading – debt instruments[5]	59.8		16.7		0.1				43.1
Total financial assets measured at fair value	224.9	0.0	37.3	0.0	0.1	110.8	0.0	0.0	76.7
Guarantees[6]	1.6							0.2	1.4
Loan commitments[6]	3.5				2.4		0.2	0.1	0.7
Forward starting transactions, reverse repurchase and securities borrowing agreements	8.1		8.1						0.0
Total maximum exposure to credit risk not reflected on the balance sheet	13.3	0.0	8.1	0.0	2.4	0.0	0.2	0.4	2.1

1 Includes but is not limited to life insurance contracts, inventory, mortgage loans, gold and other commodities. 2 These positions are generally managed under the market risk framework. For the purpose of this disclosure, collateral and credit enhancements were not considered. 3 Does not include investment fund units. 4 The amount shown in the "Netting" column represents the netting potential not recognized on the balance sheet. Refer to Note 25 for more information. 5 Financial assets at fair value not held for trading collateralized by securities consisted of structured loans and reverse repurchase and securities borrowing agreements. 6 The amount shown in the "Guarantees" column largely relates to sub-participations. Refer to Note 34 for more information.

Note 24 Fair value measurement (continued)

j) Financial instruments not measured at fair value

The table below provides the estimated fair values of financial instruments not measured at fair value.

Financial instruments not measured at fair value[1]

	31.12.19						31.12.18					
	Carrying amount	Fair value					Carrying amount	Fair value				
USD billion	Total	Carrying amount approximates fair value[2]	Level 1	Level 2	Level 3	Total	Total	Carrying amount approximates fair value[2]	Level 1	Level 2	Level 3	Total
Assets[3]												
Cash and balances at central banks	107.1	107.0	0.1	0.0	0.0	107.1	108.4	108.3	0.1	0.0	0.0	108.4
Loans and advances to banks	12.4	11.7	0.0	0.5	0.2	12.4	16.6	16.0	0.0	0.6	0.0	16.6
Receivables from securities financing transactions	84.2	74.0	0.0	8.6	1.6	84.2	95.3	85.0	0.0	6.9	3.4	95.4
Cash collateral receivables on derivative instruments	23.3	23.3	0.0	0.0	0.0	23.3	23.6	23.6	0.0	0.0	0.0	23.6
Loans and advances to customers	328.0	152.5	0.0	25.7	152.2	330.3	321.5	153.8	0.0	18.6	149.5	322.0
Other financial assets measured at amortized cost	23.0	5.8	8.4	6.4	2.8	23.3	22.6	5.9	8.4	4.8	3.3	22.5
Liabilities												
Amounts due to banks	6.6	5.6	0.0	0.9	0.0	6.6	11.0	8.8	0.0	1.9	0.2	11.0
Payables from securities financing transactions	7.8	7.5	0.0	0.3	0.0	7.8	10.3	10.0	0.0	0.3	0.0	10.3
Cash collateral payables on derivative instruments	31.4	31.4	0.0	0.0	0.0	31.4	28.9	28.9	0.0	0.0	0.0	28.9
Customer deposits	450.6	440.5	0.0	10.2	0.0	450.7	422.0	410.6	0.0	11.3	0.1	422.0
Funding from UBS Group AG and its subsidiaries	47.9	0.0	0.0	49.6	0.0	49.6	41.2	0.0	0.0	41.7	0.0	41.7
Debt issued measured at amortized cost	62.8	8.7	0.0	55.5	0.0	64.3	91.2	9.9	0.0	82.1	1.4	93.5
Other financial liabilities measured at amortized cost[4]	6.5	6.5	0.0	0.0	0.0	6.5	7.6	7.6	0.0	0.0	0.1	7.6

1 In line with IFRS 7 Financial Instruments: Disclosures, effective 2019, UBS no longer discloses a fair value hierarchy level for financial instruments where the carrying amount approximates fair value. Prior periods have been restated for this change. 2 Includes certain financial instruments where the carrying amount is a reasonable approximation of the fair value due to the instruments' short-term nature (instruments that are receivable or payable on demand, or with a remaining maturity (excluding the effects of callable features) of three months or less). 3 As of 31 December 2019, USD 0 billion of Loans and advances to banks, USD 1 billion of Receivables from securities financing transactions, USD 140 billion of Loans and advances to customers and USD 16 billion of Other financial assets measured at amortized cost are expected to be recovered or settled after 12 months. As of 31 December 2018, USD 0 billion of Loans and advances to banks, USD 1 billion of Receivables from securities financing transactions, USD 139 billion of Loans and advances to customers and USD 15 billion of Other financial assets measured at amortized cost were expected to be recovered or settled after 12 months. 4 Excludes lease liabilities.

The fair values included in the table above were calculated for disclosure purposes only. The valuation techniques and assumptions described below relate only to the fair value of UBS's financial instruments not measured at fair value. Other institutions may use different methods and assumptions for their fair value estimation, and therefore such fair value disclosures cannot necessarily be compared from one financial institution to another. The following principles were applied when determining fair value estimates for financial instruments not measured at fair value:

- For financial instruments with remaining maturities greater than three months, the fair value was determined from quoted market prices, if available.
- Where quoted market prices were not available, the fair values were estimated by discounting contractual cash flows using current market interest rates or appropriate yield curves for instruments with similar credit risk and maturity. These estimates generally include adjustments for counterparty credit risk or UBS's own credit.
- For short-term financial instruments with remaining maturities of three months or less, the carrying amount, which is net of credit loss allowances, is generally considered a reasonable estimate of fair value.

Note 25 Offsetting financial assets and financial liabilities

UBS AG enters into netting agreements with counterparties to manage the credit risks associated primarily with repurchase and reverse repurchase transactions, securities borrowing and lending, over-the-counter derivatives and exchange-traded derivatives. These netting agreements and similar arrangements generally enable the counterparties to set off liabilities against available assets received in the ordinary course of business and/or in the event that the counterparties to the transaction are unable to fulfill their contractual obligations. The right of setoff is a legal right to settle or otherwise eliminate all or a portion of an amount due by applying an amount receivable from the same counterparty against it, thus reducing credit exposure.

The table below provides a summary of financial assets subject to offsetting, enforceable master netting arrangements and similar agreements, as well as financial collateral received to mitigate credit exposures for these financial assets. The gross financial assets of UBS AG that are subject to offsetting, enforceable netting arrangements and similar agreements are reconciled to the net amounts presented within the associated balance sheet line, after giving effect to financial liabilities with the same counterparties that have been offset on the balance sheet and other financial assets not subject to an enforceable netting arrangement or similar agreement, as well as other out-of-scope items. Furthermore, related amounts for financial liabilities and collateral received that are not offset on the balance sheet are shown to arrive at financial assets after consideration of netting potential.

UBS AG engages in a variety of counterparty credit mitigation strategies in addition to netting and collateral arrangements. Therefore, the net amounts presented in the tables on this and on the next page do not purport to represent their actual credit exposure.

Financial assets subject to offsetting, enforceable master netting arrangements and similar agreements

	Assets subject to netting arrangements								
	Netting recognized on the balance sheet			Netting potential not recognized on the balance sheet[3]			Assets not subject to netting arrangements[4]	Total assets	
As of 31.12.19, USD billion	Gross assets before netting	Netting with gross liabilities[2]	Net assets recognized on the balance sheet	Financial liabilities	Collateral received	Assets after consideration of netting potential	Assets recognized on the balance sheet	Total assets after consideration of netting potential	Total assets recognized on the balance sheet
Receivables from securities financing transactions	83.2	(14.0)	69.2	(1.2)	(68.0)	0.0	15.0	15.0	84.2
Derivative financial instruments	120.2	(3.4)	116.8	(89.3)	(21.4)	6.1	5.0	11.1	121.8
Cash collateral receivables on derivative instruments[1]	26.4	(4.0)	22.4	(13.3)	(1.1)	8.0	0.9	8.9	23.3
Financial assets at fair value not held for trading	83.1	(77.5)	5.6	0.0	(5.6)	0.0	78.0	78.0	83.6
of which: reverse repurchase agreements	*83.0*	*(77.5)*	*5.4*	*0.0*	*(5.4)*	*0.0*	*0.9*	*0.9*	*6.3*
Total assets	313.0	(98.9)	214.0	(103.8)	(96.1)	14.1	99.0	113.1	313.0
As of 31.12.18, USD billion									
Receivables from securities financing transactions	88.5	(13.0)	75.5	(4.4)	(71.2)	0.0	19.8	19.8	95.3
Derivative financial instruments	124.3	(4.3)	120.0	(90.8)	(24.0)	5.2	6.2	11.4	126.2
Cash collateral receivables on derivative instruments[1]	24.6	(2.3)	22.3	(13.5)	(1.0)	7.8	1.3	9.1	23.6
Financial assets at fair value not held for trading	85.4	(77.5)	7.8	(1.4)	(6.4)	0.0	74.6	74.6	82.4
of which: reverse repurchase agreements	*85.3*	*(77.5)*	*7.8*	*(1.4)*	*(6.4)*	*0.0*	*2.1*	*2.1*	*9.9*
Total assets	322.9	(97.2)	225.7	(110.0)	(102.6)	13.0	101.9	114.9	327.6

1 The net amount of Cash collateral receivables on derivative instruments recognized on the balance sheet includes certain OTC derivatives that are net settled on a daily basis either legally or in substance under IAS 32 principles and exchange-traded derivatives that are economically settled on a daily basis. 2 The logic of the table results in amounts presented in the "Netting with gross liabilities" column corresponding directly to the amounts presented in the "Netting with gross assets" column in the liabilities table presented on the following page. Netting in this column for reverse repurchase agreements presented within the lines "Receivables from securities financing transactions" and "Financial assets at fair value not held for trading" taken together corresponds to the amounts presented for repurchase agreements in the "Payables from securities financing transactions" and "Other financial liabilities designated at fair value" lines in the liabilities table presented on the following page. 3 For the purpose of this disclosure, the amounts of financial instruments and cash collateral presented have been capped so as not to exceed the net amount of financial assets presented on the balance sheet; i.e., over-collateralization, where it exists, is not reflected in the table. 4 Includes assets not subject to enforceable netting arrangements and other out-of-scope items.

Note 25 Offsetting financial assets and financial liabilities (continued)

The table below provides a summary of financial liabilities subject to offsetting, enforceable master netting arrangements and similar agreements, as well as financial collateral pledged to mitigate credit exposures for these financial liabilities. The gross financial liabilities of UBS AG that are subject to offsetting, enforceable netting arrangements and similar agreements are reconciled to the net amounts presented within the associated balance sheet line, after giving effect to financial assets with the same counterparties that have been offset on the balance sheet and other financial liabilities not subject to an enforceable netting arrangement or similar agreement. Furthermore, related amounts for financial assets and collateral pledged that are not offset on the balance sheet are shown to arrive at financial liabilities after consideration of netting potential.

Financial liabilities subject to offsetting, enforceable master netting arrangements and similar agreements

	Liabilities subject to netting arrangements						Liabilities not subject to netting arrangements[4]	Total liabilities	
	Netting recognized on the balance sheet			Netting potential not recognized on the balance sheet[3]					
As of 31.12.19, USD billion	Gross liabilities before netting	Netting with gross assets[2]	Net liabilities recognized on the balance sheet	Financial assets	Collateral pledged	Liabilities after consideration of netting potential	Liabilities recognized on the balance sheet	Total liabilities after consideration of netting potential	Total liabilities recognized on the balance sheet
Payables from securities financing transactions	19.8	(14.0)	5.8	(0.8)	(5.0)	0.0	2.0	2.0	7.8
Derivative financial instruments	118.1	(3.4)	114.8	(89.3)	(16.8)	8.6	6.1	14.8	120.9
Cash collateral payables on derivative instruments[1]	34.2	(4.0)	30.1	(16.5)	(1.7)	12.0	1.3	13.3	31.4
Other financial liabilities designated at fair value	83.5	(77.6)	5.9	(0.4)	(5.6)	0.0	30.2	30.2	36.2
of which: repurchase agreements	*83.1*	*(77.6)*	*5.5*	*(0.4)*	*(5.2)*	*0.0*	*0.2*	*0.2*	*5.7*
Total liabilities	255.6	(98.9)	156.6	(107.0)	(29.0)	20.6	39.6	60.2	196.2
As of 31.12.18, USD billion									
Payables from securities financing transactions	20.6	(12.4)	8.3	(3.6)	(4.7)	0.0	2.0	2.0	10.3
Derivative financial instruments	124.1	(4.3)	119.8	(90.8)	(20.9)	8.1	5.9	14.0	125.7
Cash collateral payables on derivative instruments[1]	29.0	(2.3)	26.7	(14.2)	(1.2)	11.3	2.2	13.5	28.9
Other financial liabilities designated at fair value	86.6	(78.2)	8.4	(2.1)	(5.9)	0.4	25.2	25.6	33.6
of which: repurchase agreements	*86.1*	*(78.2)*	*7.9*	*(2.1)*	*(5.9)*	*0.0*	*1.6*	*1.6*	*9.5*
Total liabilities	260.4	(97.2)	163.2	(110.7)	(32.6)	19.8	35.4	55.2	198.5

1 The net amount of Cash collateral payables on derivative instruments recognized on the balance sheet includes certain exchange-traded derivatives that are net settled on a daily basis either legally or in substance under IAS 32 principles and exchange-traded derivatives that are economically settled on a daily basis. 2 The logic of the table results in amounts presented in the "Netting with gross assets" column corresponding to the amounts presented in the "Netting with gross liabilities" column in the assets table presented on the previous page. Netting in this column for repurchase agreements presented within the lines "Payables from securities financing transactions" and "Other financial liabilities designated at fair value" taken together corresponds to the amounts presented for reverse repurchase agreements in the "Receivables from securities financing transactions" and "Financial assets at fair value not held for trading" lines in the assets table presented on the previous page. 3 For the purpose of this disclosure, the amounts of financial instruments and cash collateral presented have been capped so as not to exceed the net amount of financial liabilities presented on the balance sheet; i.e., over-collateralization, where it exists, is not reflected in the table. 4 Includes liabilities not subject to enforceable netting arrangements and other out-of-scope items.

Note 26 Restricted and transferred financial assets

This Note provides information about restricted financial assets (Note 26a), transfers of financial assets (Note 26b and 26c) and financial assets that are received as collateral with the right to resell or repledge these assets (Note 26d).

a) Restricted financial assets

Restricted financial assets consist of assets pledged as collateral against an existing liability or contingent liability and other assets that are otherwise explicitly restricted such that they cannot be used to secure funding.

Financial assets are mainly pledged as collateral in securities lending transactions, in repurchase transactions, against loans from Swiss mortgage institutions and in connection with the issuance of covered bonds. The UBS AG generally enters into repurchase and securities lending arrangements under standard market agreements. For securities lending, the cash received as collateral may be more or less than the fair value of the securities loaned, depending on the nature of the transaction. For repurchase agreements, the fair value of the collateral sold under an agreement to repurchase is generally in excess of the cash borrowed. Pledged mortgage loans serve as collateral for existing liabilities against Swiss central mortgage institutions and for existing covered bond issuances of USD 11,206 million as of 31 December 2019 (31 December 2018: USD 12,516 million).

Other restricted financial assets include assets protected under client asset segregation rules, assets held by the UBS AG's insurance entities to back related liabilities to the policy holders, assets held in certain jurisdictions to comply with explicit minimum local asset maintenance requirements and assets held in consolidated bankruptcy remote entities, such as certain investment funds and other structured entities. The carrying amount of the liabilities associated with these other restricted financial assets is generally equal to the carrying amount of the assets, with the exception of assets held to comply with local asset maintenance requirements, for which the associated liabilities are greater.

Restricted financial assets

USD million	31.12.19	31.12.18
Financial assets pledged as collateral		
Financial assets at fair value held for trading	56,548	43,292
of which: assets pledged as collateral that may be sold or repledged by counterparties	*41,285*	*32,121*
Loans and advances to customers[1]	18,399	18,804
Financial assets at fair value not held for trading	188	0
Debt securities classified as Other financial assets measured at amortized cost	1,212	0
of which: assets pledged as collateral that may be sold or repledged by counterparties	*1,212*	*0*
Total financial assets pledged as collateral[2]	76,347	62,096
Other restricted financial assets		
Loans and advances to banks	2,353	5,140
Financial assets at fair value held for trading	242	1,054
Cash collateral receivables on derivative instruments	2,986	3,205
Loans and advances to customers	620	935
Financial assets at fair value not held for trading	29,368	23,212
Financial assets measured at fair value through other comprehensive income	176	171
Other	382	203
Total other restricted financial assets	36,126	33,920
Total financial assets pledged and other restricted financial assets	112,474	96,016

1 All related to mortgage loans that serve as collateral for existing liabilities against Swiss central mortgage institutions and for existing covered bond issuances. Of these pledged mortgage loans, approximately USD 6.3 billion for 31 December 2019 (31 December 2018: approximately USD 3.2 billion) could be withdrawn or used for future liabilities or covered bond issuances without breaching existing collateral requirements. 2 Does not include assets placed with central banks related to undrawn credit lines and for payment, clearing and settlement purposes (31 December 2019: USD 0.6 billion; 31 December 2018: USD 0.3 billion).

In addition to restrictions on financial assets, UBS AG and its subsidiaries are, in certain cases, subject to regulatory requirements that affect the transfer of dividends and capital within UBS AG, as well as intercompany lending. Supervisory authorities also may require entities to measure capital and leverage ratios on a stressed basis, such as the Federal Reserve Board's Comprehensive Capital Analysis and Review (CCAR) process, which may limit the relevant subsidiaries' ability to make distributions of capital based on the results of those tests.

Supervisory authorities generally have discretion to impose higher requirements or to otherwise limit the activities of subsidiaries.

Non-regulated subsidiaries are generally not subject to such requirements and transfer restrictions. However, restrictions can also be the result of different legal, regulatory, contractual, entity- or country-specific arrangements and/or requirements.

→ **Refer to "Financial and regulatory key figures for our significant regulated subsidiaries and sub-groups" in the "Significant regulated subsidiary and sub-group information" section of this report for financial information about significant regulated subsidiaries of UBS AG**

b) Transferred financial assets that are not derecognized in their entirety

The table below presents information for financial assets that have been transferred but are subject to continued recognition in full, as well as recognized liabilities associated with those transferred assets.

Transferred financial assets subject to continued recognition in full

USD million	31.12.19		31.12.18	
	Carrying amount of transferred assets	Carrying amount of associated liabilities recognized on balance sheet	Carrying amount of transferred assets	Carrying amount of associated liabilities recognized on balance sheet
Financial assets at fair value held for trading that may be sold or repledged by counterparties	41,285	16,671	32,121	4,674
relating to securities lending and repurchase agreements in exchange for cash received	*16,945*	*16,671*	*4,726*	*4,674*
relating to securities lending agreements in exchange for securities received	*24,082*	*0*	*26,234*	*0*
relating to other financial asset transfers	*258*	*0*	*1,161*	*0*
Financial assets at fair value not held for trading that may be sold or repledged by counterparties	188	187	0	0
Total financial assets transferred	41,473	16,858	32,121	4,674

Transactions in which financial assets are transferred, but continue to be recognized in their entirety on UBS AG's balance sheet include securities lending and repurchase agreements as well as other financial asset transfers. Repurchase and securities lending arrangements are, for the most part, conducted under standard market agreements and are undertaken with counterparties subject to UBS AG's normal credit risk control processes.

→ **Refer to Note 1a item 3e for more information about repurchase and securities lending agreements**

As of 31 December 2019, approximately 40% of the transferred financial assets were assets held for trading transferred in exchange for cash, in which case the associated recognized liability represents the amount to be repaid to counterparties. For securities lending and repurchase agreements, a haircut between 0% and 15% is generally applied to the transferred assets, which results in associated liabilities having a carrying amount below the carrying amount of the transferred assets. The counterparties to the associated liabilities presented in the table above have full recourse to UBS AG.

In securities lending arrangements entered into in exchange for the receipt of other securities as collateral, neither the securities received nor the obligation to return them are recognized on UBS AG's balance sheet, as the risks and rewards of ownership are not transferred to UBS AG. In cases where such financial assets received are subsequently sold or repledged in another transaction, this is not considered to be a transfer of financial assets.

Other financial asset transfers primarily include securities transferred to collateralize derivative transactions, for which the carrying amount of associated liabilities is not provided in the table above because those replacement values are managed on a portfolio basis across counterparties and product types, and therefore there is no direct relationship between the specific collateral pledged and the associated liability.

Transferred financial assets that are not subject to derecognition in full, but remain on the balance sheet to the extent of UBS AG's continuing involvement, were not material as of 31 December 2019 and as of 31 December 2018.

Note 26 Restricted and transferred financial assets (continued)

c) Transferred financial assets that are derecognized in their entirety with continuing involvement

Continuing involvement in a transferred and fully derecognized financial asset may result from contractual provisions in the transfer agreement or from a separate agreement with the counterparty or a third party entered into in connection with the transfer.

Purchased and retained interests in securitization vehicles

In cases where UBS AG has transferred assets into a securitization vehicle and retained or purchased interests therein, UBS AG has a continuing involvement in those transferred assets.

As of 31 December 2019, the majority of the retained continuing involvement related to securitization positions held as financial assets at fair value held for trading, primarily collateralized debt obligations, US commercial mortgage-backed securities and residential mortgage-backed securities. The fair value and carrying amount of UBS AG's continuing involvement related to these purchased and retained interests was USD 351 million as of 31 December 2019, and UBS AG recognized gains of USD 0 million in 2019 related to these positions. As of 31 December 2019, life-to-date losses of USD 1,198 million were recorded related to the positions held as of 31 December 2019.

As of 31 December 2018, the fair value and carrying amount of UBS AG's continuing involvement related to purchased and retained interests in securitization vehicles was USD 6 million, and UBS AG recognized gains of USD 3 million in 2018 related to these positions. As of 31 December 2018, life-to-date losses of USD 1,198 million were recorded related to the positions held as of 31 December 2018.

The maximum exposure to loss related to purchased and retained interests in securitization structures was USD 8 million as of 31 December 2019, compared with USD 10 million as of 31 December 2018.

Undiscounted cash outflows of USD 3 million may be payable to the transferee in future periods as a consequence of holding the purchased and retained interests. The earliest period in which payment may be required is less than one month.

d) Off-balance sheet assets received

The table below presents assets received from third parties that can be sold or repledged and that are not recognized on the balance sheet, but that are held as collateral, including amounts that have been sold or repledged.

Off-balance sheet assets received

USD million	31.12.19	31.12.18
Fair value of assets received that can be sold or repledged	475,726	483,688
received as collateral under reverse repurchase, securities borrowing and lending arrangements, derivative and other transactions[1]	*466,045*	*473,302*
received in unsecured borrowings	*9,681*	*10,385*
Thereof sold or repledged[2]	351,327	356,752
in connection with financing activities	*306,212*	*315,402*
to satisfy commitments under short sale transactions	*30,591*	*28,949*
in connection with derivative and other transactions[1]	*14,524*	*12,400*

1 Includes securities received as initial margin from its clients that UBS AG is required to remit to central counterparties, brokers and deposit banks through its exchange-traded derivative clearing and execution services. 2 Does not include off-balance sheet securities (31 December 2019: USD 19.6 billion; 31 December 2018: USD 24.5 billion) placed with central banks related to undrawn credit lines and for payment, clearing and settlement purposes for which there are no associated liabilities or contingent liabilities.

Note 27 Maturity analysis of financial liabilities

The contractual maturities for non-derivative and non-trading financial liabilities as of 31 December 2019 are based on the earliest date on which UBS could be contractually required to pay. The total amounts that contractually mature in each time band are also shown for 31 December 2018. Derivative positions and trading liabilities, predominantly made up of short sale transactions, are assigned to the column *Due within 1 month,* as this provides a conservative reflection of the nature of these trading activities. The contractual maturities may extend over significantly longer periods.

Maturity analysis of financial liabilities

	31.12.19					
USD billion	Due within 1 month	Due between 1 and 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after 5 years	Total
Financial liabilities recognized on balance sheet[1]						
Amounts due to banks	5.4	0.3	0.4	0.5	0.0	6.6
Payables from securities financing transactions	7.4	0.1	0.3		0.0	7.8
Cash collateral payables on derivative instruments	31.4					31.4
Customer deposits	423.9	16.5	7.3	3.5	0.0	451.2
Funding from UBS Group AG and its subsidiaries[2]	0.0	0.2	2.3	29.0	24.6	56.2
Debt issued measured at amortized cost[2]	4.3	4.7	27.8	20.7	9.0	66.5
Other financial liabilities measured at amortized cost	5.2	0.1	0.5	1.9	2.0	9.6
of which: lease liabilities	*0.1*	*0.1*	*0.5*	*1.9*	*2.0*	*4.5*
Total financial liabilities measured at amortized cost	477.6	22.0	38.5	55.6	35.6	629.3
Financial liabilities at fair value held for trading[3,4]	30.6					30.6
Derivative financial instruments[3]	120.9					120.9
Brokerage payables designated at fair value	37.2					37.2
Debt issued designated at fair value[5]	21.3	17.4	9.5	12.7	7.1	68.0
Other financial liabilities designated at fair value	34.0	0.4	0.5	0.4	0.9	36.1
Total financial liabilities measured at fair value through profit or loss	244.0	17.8	9.9	13.1	8.0	292.9
Total	721.6	39.9	48.4	68.7	43.6	922.2
Guarantees, commitments and forward starting transactions[6]						
Loan commitments[7]	33.1	0.5	0.3	0.0		33.9
Guarantees[7]	19.1					19.1
Forward starting transactions						
Reverse repurchase agreements[7]	21.9		0.0			21.9
Securities borrowing agreements						0.0
Total	74.1	0.5	0.3	0.0	0.0	74.9

Note 27 Maturity analysis of financial liabilities (continued)

	31.12.18					
USD billion	Due within 1 month	Due between 1 and 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after 5 years	Total
Financial liabilities recognized on balance sheet[1]						
Amounts due to banks	7.9	1.0	1.6	0.5	0.0	11.0
Payables from securities financing transactions	9.5	0.6	0.3		0.0	10.4
Cash collateral payables on derivative instruments	28.9					28.9
Customer deposits	396.6	13.4	6.9	5.1	0.0	422.1
Funding from UBS Group AG and its subsidiaries[2]	0.0	0.0	0.5	21.9	22.0	44.4
Debt issued measured at amortized cost[2]	4.6	5.8	39.1	34.7	12.4	96.5
Other financial liabilities measured at amortized cost	6.4					6.4
Total financial liabilities measured at amortized cost	453.9	20.8	48.4	62.3	34.3	619.7
Financial liabilities at fair value held for trading[3,4]	29.0					29.0
Derivative financial instruments[3]	125.7					125.7
Brokerage payables designated at fair value	38.4					38.4
Debt issued designated at fair value[5]	15.7	18.1	10.2	7.4	8.0	59.4
Other financial liabilities designated at fair value	30.0	0.4	1.1	1.2	1.0	33.7
Total financial liabilities measured at fair value through profit or loss	238.8	18.5	11.3	8.6	9.0	286.2
Total	692.7	39.3	59.7	70.9	43.3	905.9
Guarantees, commitments and forward starting transactions[6]						
Loan commitments[7]	34.1	0.3	0.3	0.0		34.7
Guarantees[7]	19.8					19.8
Forward starting transactions						
Reverse repurchase agreements[7]	9.0		0.0			9.0
Securities borrowing agreements	0.0					0.0
Total	62.9	0.3	0.4	0.0	0.0	63.6

1 Except for financial liabilities at fair value held for trading and derivative financial instruments (see footnote 3), the amounts presented generally represent undiscounted cash flows of future interest and principal payments. 2 The time bucket Due after 5 years includes perpetual loss-absorbing additional tier 1 capital instruments. 3 Carrying amount is fair value. Management believes that this best represents the cash flows that would have to be paid if these positions had to be settled or closed out. Refer to Note 28 for undiscounted cash flows of derivatives designated in hedge accounting relationships. 4 Contractual maturities of financial liabilities at fair value held for trading are: USD 30 billion due within 1 month (2018: USD 28.3 billion), USD 0.6 billion due between 1 month and 1 year (2018: USD 0.6 billion) and USD 0 billion due between 1 and 5 years (2018: USD 0 billion). 5 Future interest payments on variable-rate liabilities are determined by reference to the applicable interest rate prevailing as of the reporting date. Future principal payments that are variable are determined by reference to the conditions existing at the reporting date. 6 Comprises the maximum irrevocable amount of guarantees, commitments and forward starting transactions. 7 Loan commitments measured at fair value of USD 6.3 billion (2018: USD 3.5 billion), guarantees measured at fair value of USD 1.0 billion (2018: USD 1.6 billion) and forward starting reverse repurchase agreements measured at fair value of USD 20.3 billion (2018: USD 8.1 billion) are under the time bucket Due within 1 month.

Derivatives transacted for hedging purposes

UBS AG enters into derivative transactions for the purpose of hedging risks inherent in assets, liabilities and forecast transactions. The accounting treatment of hedge transactions varies according to the nature of the instrument hedged and whether the hedge qualifies as such for accounting purposes.

Derivative transactions that qualify and are designated as hedges for accounting purposes are described under the corresponding risk category headings in this Note (interest rate risk hedge accounting and structural foreign exchange risk hedge accounting). In addition, UBS AG designates certain non-derivative financial assets and liabilities as hedging instruments in structural foreign exchange risk hedge accounting, as described under the corresponding risk category headings of this Note.

UBS AG has also executed various hedging strategies utilizing derivatives for which hedge accounting has not been applied. These economic hedges include interest rate swaps and other interest rate derivatives (e.g., futures) for day-to-day economic interest rate risk management purposes. In addition, UBS AG has used equity futures, options and, to a lesser extent, swaps in a variety of equity trading strategies to offset underlying equity and equity volatility exposure. UBS AG has also entered into credit default swaps that provide economic hedges for credit risk exposures (refer to "Credit derivatives" in Note 11). UBS AG's accounting policies for derivatives designated and accounted for as hedging instruments or economic hedges that do not qualify for hedge accounting are described in Note 1a item 3j, where terms used in the following sections are explained.

Note 28 Hedge accounting (continued)

Interest rate risk hedge accounting

Fair value hedges: interest rate risk related to debt instruments

UBS AG issues various long-term, fixed-rate debt instruments measured at amortized cost, such as senior unsecured debt, covered bonds and subordinated debt, that are exposed to changes in fair value due to movements in market interest rates. Interest rate swaps are used as fair value hedges to protect against changes in the fair value of the issued debt.

Fair value hedges of interest rate risk related to debt instruments involve swapping fixed cash flows associated with the debt issued to floating cash flows by entering into interest rate swaps that receive fixed and pay floating cash flows. The variable future cash flows are based on the following benchmark rates: USD LIBOR, CHF LIBOR, EURIBOR, GBP LIBOR, AUD LIBOR, JPY LIBOR and SGD LIBOR.

The issued debt and interest rate swaps are designated in a fair value hedge relationship. The notional of the designated hedging instrument matches the notional of the hedged item.

The hedged risk is determined as the change in the fair value of the debt issued arising solely from changes in the designated benchmark interest rate (e.g., one-month or three-month LIBOR). Such change is usually the largest component of the overall change in the fair value of the hedged position in transaction currency.

Hedge effectiveness is assessed by comparing changes in the fair value of the debt issued attributable to changes in the designated benchmark interest rate with the changes in the fair value of the interest rate swaps.

Hedge ineffectiveness can arise from different curves used for the discounting of the hedging instruments and the hedged items, or from mismatches of critical terms between fixed-term lending products and hedging interest rate swaps.

Hedging instruments and hedged items

USD million	31.12.19	31.12.18
Hedging instruments: interest rate swaps		
Nominal amount	65,257	63,816
Carrying amount		
Derivative financial assets	33	27
Derivative financial liabilities		1
Hedged items: debt issued measured at amortized cost		
Carrying amount	26,120	28,139
of which: accumulated amount of fair value hedge adjustment	574	282
Hedged items: funding from UBS Group AG and its subsidiaries		
Carrying amount	41,258	35,647
of which: accumulated amount of fair value hedge adjustment	*525*	*(580)*

Hedge ineffectiveness

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Changes in fair value of hedging instruments	1,427	(341)	(16)
Changes in fair value of hedged items	(1,408)	329	(4)
Net gains / (losses) related to hedge ineffectiveness recognized in Other net income from financial instruments measured at fair value through profit or loss	19	(11)	(20)

Profile of the timing of the nominal amount of the hedging instrument

	31.12.19					
USD billion	Due within 1 month	Due between 1 and 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after 5 years	Total
Interest rate swaps		3	9	40	14	65

	31.12.18					
USD billion	Due within 1 month	Due between 1 and 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after 5 years	Total
Interest rate swaps			4	43	17	64

Note 28 Hedge accounting (continued)

Fair value hedges: portfolio interest rate risk related to loans

UBS AG has a portfolio of long-term fixed-rate mortgage loans in CHF that are measured at amortized cost and exposed to changes in the fair value attributable to movements in market interest rates. Interest rate swaps that pay a fixed rate of interest and receive a floating rate of interest are used as fair value hedges to protect against changes in the fair value of the originated loans.

The portfolio of mortgage loans and interest rate swaps are designated in a fair value hedge relationship. The notional of the designated hedging instrument matches the notional of the hedged item.

The hedging strategy involves an open portfolio of hedged items, i.e., mortgage loans. Both the hedged items and the hedging instruments are adjusted on a monthly basis to reflect changes in size and the maturity profile of the hedged portfolio. The existing hedging relationship is discontinued and a new one is designated. Changes in the portfolio are driven by new loans originated or existing loans repaid.

The hedged risk is determined as the change in the fair value of the loans arising solely from changes in the designated benchmark interest rate (e.g., one-month or three-month LIBOR). Such change is usually the largest component of the overall change in the fair value of the hedged position in transaction currency.

Hedge effectiveness is assessed by comparing changes in the fair value of the hedged portfolio of loans attributable to changes in the designated benchmark interest rate with the changes in the fair value of the interest rate swaps.

Hedge ineffectiveness can arise from different curves used for the discounting of the hedging instruments and the hedged items, or from mismatches of critical terms between fixed-term lending products and hedging interest rate swaps.

Hedging instruments and hedged items

USD million	31.12.19	31.12.18
Hedging instruments: interest rate swaps		
Nominal amount	4,493	10,318
Carrying amount		
Derivative financial assets		0
Derivative financial liabilities	14	31
Hedged items: loans and advances to customers		
Carrying amount	4,494	10,299
of which: accumulated amount of fair value hedge adjustment on the portfolio that was subject to hedge accounting[1]	*117*	*200*
of which: accumulated amount of fair value hedge adjustment, subject to amortization attributable to the portion of the portfolio that ceased to be part of hedge accounting[1]	*172*	*89*

1 Amounts presented within Other financial assets measured at amortized cost and Other financial liabilities measured at amortized cost.

Hedge ineffectiveness

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Changes in fair value of hedging instruments[1]	(38)	(22)	(10)
Changes in fair value of hedged items[1]	32	16	3
Net gains / (losses) related to hedge ineffectiveness recognized in Other net income from financial instruments measured at fair value through profit or loss	(6)	(6)	(7)

1 For the year ended 31 December 2017, the amounts included offsetting accrued interest, which had no effect on net gains / (losses) related to hedge ineffectiveness.

Note 28 Hedge accounting (continued)

Cash flow hedges of forecast transactions

UBS AG is exposed to variability in future interest cash flows on non-trading financial assets and liabilities that bear interest at variable rates or are expected to be refinanced or reinvested in the future, due to movements in future market rates. The amounts and timing of future cash flows, representing both principal and interest flows, are projected on the basis of contractual terms and other relevant factors, including estimates of prepayments and defaults. The aggregate principal balances and interest cash flows across all portfolios over time form the basis for identifying the non-trading interest rate risk of UBS AG, which is hedged with interest rate swaps, the maximum maturity of which is 10 years.

UBS AG of forecast cash flows and interest rate swaps are designated in cash flow hedge relationships. The notional of the designated hedging instrument matches the notional of the hedged item for newly transacted swaps. For swaps that are re-designated, the ratio of the designation is determined based on the swap sensitivity.

The hedging strategy involves designation of each interest rate swap in a separate hedge relationship against a group of hedged items that share the same risk. The hedged items giving rise to the hedged cash flows are fungible and could be substituted for each other over the lifetime of the hedge. Cash flow forecasts and risk exposures are monitored and adjusted on an ongoing basis, and consequently hedging instruments are added or taken out of the program accordingly.

The hedged risk is determined as the variability of future cash flows arising solely from changes in the designated benchmark interest rate, i.e., overnight index swap rate / one-month or three-month LIBOR. Hedge effectiveness is assessed by comparing changes in the fair value of the hedged cash flows attributable to changes in the designated benchmark interest rate with the changes in the fair value of the interest rate swaps.

Hedge ineffectiveness can arise from differences in the reference index of the hedging instruments and hedged items, or from inception of the hedge relationship after the trade date of the hedging derivative.

Hedging instruments

USD million	31.12.19	31.12.18
Hedging instruments: interest rate swaps		
Nominal amount	69,443	70,149
Carrying amount		
Derivative financial assets	16	24
Derivative financial liabilities		1

Hedge ineffectiveness

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Changes in fair value of hedging instruments[1]	1,639	97	
Changes in fair value of hedged items[1]	(1,571)	(73)	
Effective portion of changes in fair value of hedging instruments recognized as Other comprehensive income	1,571	(42)	45
Ineffectiveness recognized as Other net income from financial instruments measured at fair value through profit or loss	68	25	8

1 This Note addresses the requirement of IFRS 7 effective from 1 January 2018, for which data is provided prospectively.

Other comprehensive income recognized directly in equity related to cash flow hedges

USD million	2019	2018	2017
Balance at the beginning of the year	109	360	955
Effective portion of changes in fair value of hedging instruments recognized in OCI	1,571	(42)	45
Amount reclassified to Net interest income when the hedged item affected profit / (loss), for the year ended 31 December	(175)	(294)	(843)
of which: reclassified to interest income on amortized-cost instruments[1]	*(175)*	*(293)*	
of which: reclassified to interest income on FVTPL instruments[1]	*0*	*(1)*	
Translation effects recognized directly in retained earnings	9	18	39
Income tax related to cash flow hedges	(253)	67	163
Balance at the end of the year	1,260	109	360
of which: related to hedging relationships for which hedge accounting continues to be applied[1,2]	*1,596*	*74*	
of which: related to hedging relationships for which hedge accounting is no longer applied[1,2]	*(43)*	*73*	

1 This Note addresses the requirement of IFRS 7 effective from 1 January 2018, for which data is provided prospectively. 2 Amounts are disclosed on a pre-tax basis.

Structural foreign exchange risk hedge accounting

Hedges of net investments in foreign operations

UBS AG applies hedge accounting for certain net investments in foreign operations. For this purpose, foreign exchange (FX) derivatives, mainly FX forwards and FX swaps, as well as non-derivative financial assets or liabilities are used and designated as hedging instruments. The notional of the designated hedging instrument matches the notional of the hedged item.

Based on UBS AG's risk management strategy, the hedges are adjusted on at least a monthly basis to reflect the changes in the hedged position.

The hedged risk is determined as the change in the carrying amount of net assets of foreign operations arising solely from changes in spot foreign exchange rates. Consequently, UBS AG only designates the spot element of the FX forwards as hedging instruments. Changes in the fair value of the hedging instruments attributable to changes in forward points and the effect of discounting are not part of a hedge accounting designation. These amounts, therefore, do not form part of the effectiveness assessment and are recognized directly in profit or loss.

The effective portion of gains and losses of these FX swaps, i.e., the spot element, is transferred directly to OCI to offset foreign currency translation (FCT) gains and losses on the net investments in foreign branches and subsidiaries. As such, these FX swaps hedge the structural FX exposure, resulting in the accumulation of FCT movements at the level of individual foreign branches and subsidiaries, which make up the total FCT OCI of UBS AG.

When UBS AG designates as hedging instruments certain non-derivative foreign currency financial assets and liabilities of foreign branches or subsidiaries, the FX translation difference recorded in FCT OCI of the non-derivative hedging instrument of one foreign entity offsets the structural FX exposure of another foreign entity. Therefore, the aggregated FCT OCI of UBS AG is unchanged from this hedge designation.

Due to the fact that only the spot element of hedging instruments is designated in hedging relationships, ineffectiveness is unlikely unless the hedged net assets fall below the designated hedged amount. The exceptions are hedges where the hedging currency is not the same as the currency of the foreign operation, where the currency basis may cause ineffectiveness.

Hedging instruments

USD million	31.12.19	31.12.18
Hedging instruments: derivative financial instruments		
Nominal amount	11,875	11,432
Carrying amount		
Derivative financial assets	9	56
Derivative financial liabilities	170	45
Hedging instruments: non-derivative foreign currency assets and liabilities		
Nominal amount	217	229
Carrying amount		
Receivables from securities financing transactions	109	115
Payables from securities financing transactions	109	115

Hedge ineffectiveness

	For the year ended	
USD million	31.12.19	31.12.18
Changes in fair value of hedging instruments	(153)	199
Changes in fair value of hedged items	144	(199)
Effective portion of changes in fair value of hedging instruments recognized in Foreign currency translation OCI	(144)	181
Ineffectiveness recognized as Other net income from financial instruments measured at fair value through profit or loss	(8)	18

Note 28 Hedge accounting (continued)

Foreign currency translation reserve

USD million	31.12.19	31.12.18	31.12.17
Foreign currency translation reserve	4,032	3,940	4,455
of which: effective portion of changes in fair value of hedging instruments related to investment in subsidiaries [1]	*634*	*770*	
of which: for which hedge accounting continues to be applied[1]	*377*	*515*	
of which: for which hedge accounting is no longer applied[1]	*257*	*255*	
Effective portion of changes in fair value of hedging instruments reclassified to Other income upon disposal of investment for the year ended[1]	(14)	2	

1 This Note addresses the requirement of IFRS 7 effective from 1 January 2018, for which data is provided prospectively.

Undiscounted cash flows

The table below provides undiscounted cash flow information for derivative instruments designated in hedge accounting relationships.

Derivatives designated in hedge accounting relationships (undiscounted cash flows)

	2019						
USD billion	On demand	Due within 1 month	Due between 1 and 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after 5 years	Total
Interest rate swaps[1]							
FX swaps / forwards							
Cash inflows		6	5	0			11
Cash outflows		6	5	0			11
Net cash flows		0	0	0			0

	2018						
USD billion	On demand	Due within 1 month	Due between 1 and 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after 5 years	Total
Interest rate swaps[1]							
FX swaps / forwards							
Cash inflows		9	2				11
Cash outflows		9	2				11
Net cash flows		0	0				0

1 Undiscounted cash inflows and cash outflows of interest rate swaps were not material as the majority of interest rate swaps designated in hedge accounting relationships are legally settled on a daily basis.

Interest rate benchmark reform

As of 1 October 2019, UBS AG early adopted the amendments to IAS 39 and IFRS 7 related to interest rate benchmark reform published by the IASB in September 2019.

The significant interest rate benchmarks to which UBS AG's hedging relationships are exposed are stated in the "Interest rate risk hedge accounting" section of this Note.

UBS AG established a cross-divisional, cross-regional governance structure and change program to address the scale and complexity of the transition to alternative reference rates (ARRs).

As all fair value hedges are directly affected by the interest rate benchmark reform, the relief is applied to all of the disclosed fair value hedges in this Note.

Hedges of net investments in foreign operations are not affected by the amendments.

UBS AG also applies the amendments to those cash flow hedge relationships where the hedged risk is LIBOR. The following table provides details on the nominal amount and carrying amount of the hedging instruments in those hedging relationships.

Cash flow hedges of forecast transactions referencing LIBOR

USD million	31.12.19
Hedging instruments: interest rate swaps	
Nominal amount	16,462
Carrying amount	
Derivative financial assets	0
Derivative financial liabilities	0

Note 29 Pension and other post-employment benefit plans

The table below provides a breakdown of expenses related to pension and other post-employment benefit plans recognized in the income statement within *Personnel expenses*.

Income statement – expenses related to pension and other post-employment benefit plans

USD million	31.12.19	31.12.18	31.12.17
Net periodic expenses for defined benefit plans	291	140	365
of which: related to major pension plans[1]	*271*	*141*	*354*
of which: Swiss plan[2]	*248*	*108*	*307*
of which: UK plan	*3*	*11*	*15*
of which: US and German plans	*21*	*22*	*31*
of which: related to post-employment medical insurance plans[3]	*2*	*(11)*	*3*
of which: related to remaining plans and other expenses[4]	*17*	*10*	*8*
Expenses for defined contribution plans[5]	278	223	236
of which: UK plans	*34*	*35*	*65*
of which: US plan	*173*	*127*	*110*
of which: remaining plans	*71*	*61*	*61*
Total pension and other post-employment benefit plan expenses[6]	569	363	601

1 Refer to Note 29a for more information. 2 Changes to the Swiss pension plan in 2018 resulted in a pre-tax gain of USD 132 million related to past service. Refer to Note 29a for more information on these changes. 3 Refer to Note 29b for more information. 4 Other expenses include differences between actual and estimated performance award accruals. 5 Refer to Note 29c for more information. 6 Refer to Note 6.

The table below provides a breakdown of amounts recognized in *Other comprehensive income* for defined benefit plans.

Other comprehensive income – gains / (losses) on defined benefit plans

USD million	31.12.19	31.12.18	31.12.17
Major pension plans[1]	(128)	(79)	276
of which: Swiss plan	*(15)*	*(201)*	*(56)*
of which: UK plan	*(78)*	*130*	*304*
of which: US and German plans	*(35)*	*(8)*	*28*
Post-employment medical insurance plans[2]	(3)	7	1
Remaining plans	1	3	31
Gains / (losses) recognized in other comprehensive income, before tax	(129)	(70)	308
Tax (expense) / benefit relating to defined benefit plans recognized in other comprehensive income	(41)	245	6
Gains / (losses) recognized in other comprehensive income, net of tax[3]	(170)	175	314

1 Refer to Note 29a for more information. 2 Refer to Note 29b for more information. 3 Refer to the "Statement of comprehensive income."

Note 29 Pension and other post-employment benefit plans (continued)

UBS AG recognizes assets and liabilities with respect to defined benefit plans within *Other non-financial assets* and *Other non-financial liabilities*.

As of 31 December 2019 and 31 December 2018, the Swiss pension plan was in a surplus situation. However, a surplus is only recognized on the balance sheet to the extent that it does not exceed the estimated future economic benefit. Since the estimated future economic benefit was zero as of 31 December 2019 and 31 December 2018, no net defined benefit pension asset was recognized on the balance sheet.

The table below provides a breakdown of the assets and liabilities recognized on the balance sheet within *Other non-financial assets and Other non-financial liabilities* related to defined benefit plans.

Balance sheet – net defined benefit pension and post-employment asset

USD million	31.12.19	31.12.18
Major pension plans[1]	9	0
of which: Swiss plan	*0*	*0*
of which: UK plan	*4*	*0*
of which: US and German plans	*5*	*0*
Total net defined benefit pension and post-employment asset[2]	9	0

1 Refer to Note 29a for more information. 2 Refer to Note 17.

Balance sheet – net defined benefit pension and post-employment liability

USD million	31.12.19	31.12.18
Major pension plans[1]	527	671
of which: Swiss plan	*0*	*0*
of which: UK plan	*0*	*160*
of which: US and German plans[2]	*527*	*511*
Post-employment medical insurance plans[3]	62	62
Remaining plans	40	40
Total net defined benefit pension and post-employment liability[4]	629	773

1 Refer to Note 29a for more information. 2 Of the total liability recognized as of 31 December 2019, USD 111 million related to US plans and USD 416 million related to German plans (31 December 2018: USD 137 million and USD 374 million, respectively). 3 Refer to Note 29b for more information. 4 Refer to Note 22.

Note 29 Pension and other post-employment benefit plans (continued)

a) Defined benefit pension plans

UBS AG has established defined benefit pension plans for its employees in various jurisdictions in accordance with local regulations and practices. The major plans are located in Switzerland, the UK, the US and Germany. The plans' benefits include retirement, disability and survivor benefits. The level of benefits provided depends on the specific plan rules and the level of employee compensation.

The overall investment policy and strategy for UBS AG's defined benefit pension plans is guided by the objective of achieving an investment return that, together with contributions, is intended to ensure that there will be sufficient assets to pay pension benefits as they fall due, while also mitigating various risks. For the plans with assets, i.e., funded plans, the investment strategies are managed under local laws and regulations in each jurisdiction. The asset allocation is determined by the governance body with reference to the current and expected economic and market conditions and in consideration of specific asset class risk in the risk profile. Within this framework, UBS AG ensures that the fiduciaries consider how the asset investment strategy correlates with the maturity profile of the plan liabilities and the respective potential effect on the funded status of the plans, including potential short-term liquidity requirements.

The defined benefit obligations (DBOs) for all of UBS AG's defined benefit pension plans are directly affected by changes in yields of high-quality corporate bonds quoted in an active market in the currency of the respective pension plan, as the applicable discount rate used to determine the DBO is based on these yields. For the funded plans, the pension assets are invested in a diversified portfolio of financial assets, including real estate, bonds, investment funds and cash, across geographic regions, to achieve a balance of risk and return. Under IFRS, volatility arises in each pension plan's net asset / liability position because the fair value of the plan's financial assets is not fully correlated to movements in the value of the plan's DBO. Specific asset-liability matching strategies for each pension plan are independently determined by the responsible governance body. The net asset / liability volatility for each plan is dependent on the specific financial assets chosen by each plan's governance body. For certain pension plans, a liability-driven investment approach is applied to a portion of the plan assets to reduce potential volatility. UBS AG's general principle is to ensure that the plans are adequately funded on the basis of actuarial valuations. Local pension regulations are the primary drivers for determining when contributions are required.

Note 29 Pension and other post-employment benefit plans (continued)

Swiss pension plan

The Swiss pension plan covers employees of UBS AG and employees of companies having close economic or financial ties with UBS AG, and exceeds the minimum benefit requirements under Swiss pension law.

In 2017, a significant number of employees transferred from UBS AG to UBS Business Solutions AG, which is a directly held subsidiary of UBS Group AG. There continues to be one pooled pension plan in Switzerland covering the employees of UBS AG and those transferred to UBS Business Solutions AG. UBS AG and UBS Business Solutions AG both are legal sponsors of UBS's Swiss pension plan. Since the date of the employee transfer, UBS AG and UBS Business Solutions AG apply proportionate defined benefit accounting, i.e., the net pension cost, any OCI impacts from remeasurements and the net pension asset / liability of the Swiss pension plan are allocated proportionally between UBS AG and UBS Business Solutions AG based on the aggregated net pension cost and defined benefit obligations related to their employees.

Contributions to the pension plan are paid by both the employer and the employees. The Swiss pension plan allows employees to choose the level of contributions paid by them. Employee contributions are calculated as a percentage of the contributory salary and are deducted monthly. The percentages deducted from salary depend on age and choice of contribution category and vary between 2.5% and 13.5% of contributory base salary and between 0% and 9% of contributory variable compensation. Depending on the age of the employee, UBS AG pays a contribution that ranges between 6.5% and 27.5% of contributory base salary and between 2.8% and 9% of contributory variable compensation. UBS AG also pays risk contributions that are used to finance benefits paid out in the event of death and disability.

The plan benefits include retirement, disability and survivor benefits. The pension plan offers to members at the normal retirement age of 65 a choice between a lifetime pension with or without full restitution and a partial or full lump sum payment. Participants can choose to continue employment and correspondingly remain active members in the pension plan until the age of 70 at the latest or draw early retirement benefits starting from the age of 58. Employees have the opportunity to make additional purchases of benefits to fund early retirement benefits (Plan 58+).

The pension amount payable is a result of the conversion rate applied on the accumulated balance of the individual plan participant's pension account at the retirement date. The accumulated balance of each individual plan participant's pension account is based on credited vested benefits transferred from previous employers, purchases of benefits, and the employee and employer contributions that have been made to the pension account of each individual plan participant, as well as the interest accrued on the accumulated balance. The interest rate accrued is defined annually by the Pension Foundation Board.

Although the Swiss pension plan is based on a defined contribution promise under Swiss pension law, it is accounted for as a defined benefit plan under IFRS, primarily because of the obligation to accrue interest on the pension accounts and the payment of lifetime pension benefits.

The Swiss pension plan is governed by a Pension Foundation Board. The responsibilities of this board are defined by Swiss pension law and by the plan rules. An actuarial valuation under Swiss pension law is performed regularly. According to Swiss pension law, a temporary limited underfunding is permitted. However, should an underfunded situation occur, the Pension Foundation Board is required to take the necessary measures such that full funding can be expected to be restored within a maximum period of 10 years. If a Swiss pension plan were to become significantly underfunded on a Swiss pension law basis, additional employer and employee contributions could be required. In this situation, the risk is shared between employer and employees, and the employer is not legally obliged to cover more than 50% of the additional contributions required. As of 31 December 2019, the Swiss pension plan had a technical funding ratio under Swiss pension law of 127.1% (31 December 2018: 124.2%).

The investment strategy of the Swiss plan is implemented on the basis of a multi-level investment and risk management process and complies with Swiss pension law, including the rules and regulations relating to diversification of plan assets. These rules, among others, specify restrictions on the composition of plan assets; e.g., there is a limit of 50% for investments in equities. The investment strategy of the Swiss plan is aligned with the defined risk budget set out by the Pension Foundation Board. The risk budget is determined on the basis of regularly performed asset and liability management analyses. In order to implement the risk budget, the Swiss plan may use direct investments, investment funds and derivatives. To mitigate foreign currency risk, a specific currency hedging strategy is in place. The Pension Foundation Board strives for a medium- and long-term balance between assets and liabilities.

As of 31 December 2019, the Swiss pension plan was in a surplus situation on an IFRS measurement basis, as the fair value of plan assets exceeded the DBO by USD 2,099 million (31 December 2018: surplus of USD 1,998 million). However, a surplus is only recognized on the balance sheet to the extent that it does not exceed the estimated future economic benefit, which equals the difference between the present value of the estimated future service cost and the present value of the estimated future employer contributions. The maximum future economic benefit is highly variable based on changes in the discount rate. As of both 31 December 2019 and 31 December 2018, the estimated future economic benefit was zero and hence no net defined benefit asset was recognized on the balance sheet. As of 31 December 2019, the difference between the pension plan surplus and the estimated future economic benefit, i.e., the asset ceiling effect, was USD 2,099 million (31 December 2018: USD 1,998 million).

In the fourth quarter of 2019, UBS AG established an enhanced methodology for measuring the estimated future economic benefits available under the Swiss pension plan, which limits the amount of any surplus recognized in accordance with IFRS, i.e., the asset ceiling calculation. Under the revised approach, which will come into effect in the first quarter of 2020, future service cost is measured individually for each future year, considering the individually applicable discount rate. In addition, an enhanced discount curve methodology will be adopted, utilizing the FINMA-published ultimate forward rate, which represents the average long-term historical real rate plus expected inflation over the long-dated periods where discount rates are unobservable. Application of this approach is expected to reduce the sensitivity in the quarterly asset ceiling calculation to short-term interest rates, resulting in lower variability in the calculation and accordingly the resulting recognition / derecognition of the Swiss pension plan surplus in *Other comprehensive income*. No changes have been made to the methodology for measuring the defined benefit obligation.

Changes to the Swiss pension plan

As a result of the effects of continuing low and in some cases negative interest rates, diminished investment return expectations and increasing life expectancy, the pension fund of UBS AG in Switzerland and UBS AG agreed to measures that have taken effect from the start of 2019 to support the long-term financial stability of the Swiss pension fund. As a result, the conversion rate was lowered, the regular retirement age was increased from 64 to 65, employee contributions were increased from a range of 1% and 13.5% of the contributory base salary to a range of 2.5% and 13.5% of the contributory base salary, and savings contributions start from age 20 instead of the previous starting age of 25. Pensions already in payment on 1 January 2019 were not affected by these measures.

To mitigate the effects of the reduction of the conversion rate on future pensions, UBS AG will make a payment to employees' retirement assets in the Swiss pension fund of up to USD 455 million in three installments in 2020, 2021 and 2022.

In accordance with IFRS, these measures led to a reduction in the pension obligation recognized by UBS AG, resulting in a pre-tax gain of USD 132 million in 2018. In addition, 2018 service costs were lower by USD 34 million due to the decrease in benefits. These effects were recognized as a reduction in *Personnel expenses* within the income statement across the business divisions and Corporate Center, with a corresponding effect in *Other comprehensive income*, as the Swiss pension plan was in a surplus situation that could not be recognized due to the IFRS asset ceiling restriction. If the Swiss pension plan remains in an asset ceiling position, the three payments in 2020, 2021 and 2022, adjusted for expected forfeitures, are expected to reduce total equity by USD 391 million, with no effect on the income statement.

The first installment and the regular employer contributions expected to be made to the Swiss pension plan in 2020 are estimated to be USD 143 million and USD 278 million, respectively.

UK pension plan

The UK plan is a career-average revalued earnings scheme, and benefits increase automatically based on UK price inflation. The normal retirement age for participants in the UK plan is 60. Since 2000, the UK plan has been closed to new entrants and, since 2013, pension plan participants are no longer accruing benefits for current or future service. Employees instead participate in the UK defined contribution plan.

The governance responsibility for the UK plan lies jointly with the Pension Trustee Board, which is required under local pension laws, and UBS AG. The employer contributions to the pension fund reflect agreed-upon deficit funding contributions, which are determined on the basis of the most recent actuarial valuation using assumptions agreed by the Pension Trustee Board and UBS AG. In the event of underfunding, UBS AG and the Pension Trustee Board must agree on a deficit recovery plan within statutory deadlines. In 2019, UBS AG made deficit funding contributions of USD 242 million to the UK plan. In 2018, UBS AG did not make any deficit funding contributions.

Note 29 Pension and other post-employment benefit plans (continued)

The plan assets are invested in a diversified portfolio of financial assets. A liability-driven investment approach is applied, as a portion of the plan assets is invested in inflation-indexed bonds that provide a partial hedge against price inflation. If price inflation increases, the DBO is likely to increase by more than the change in the fair value of plan assets, which would result in an increase in the net defined benefit liability. Plan rules and local pension legislation cap the level of inflationary increase that can be applied to plan benefits.

As the plan is obligated to provide guaranteed lifetime pension benefits to plan participants upon retirement, increases in life expectancy will result in an increase in the plan's liabilities. The sensitivity to changes in life expectancy is particularly high in the UK plan as the pension benefits are indexed to price inflation.

As of 31 December 2019, the UK plan was in a surplus situation on an IFRS measurement basis as the fair value of plan assets exceeded the DBO by USD 4 million (31 December 2018: deficit of USD 160 million).

Total contributions expected to be made to the UK defined benefit pension plan in 2020 are estimated at USD 13 million, subject to regular funding reviews during the year.

In addition, UBS AG and the Pension Trustee Board have entered into an arrangement whereby a collateral pool was established to provide security for the pension fund. The value of the collateral pool as of 31 December 2019 was USD 364 million and includes corporate bonds and government-related debt instruments. The Pension Trustee Board and UBS AG may agree adjustments to the collateral pool in the future. The arrangement provides the Pension Trustee Board dedicated access to a pool of assets in the event of UBS AG's insolvency or not paying a required deficit funding contribution.

US pension plans

There are two distinct major defined benefit pension plans in the US, both with a normal retirement age of 65. Since 1998 and 2001, respectively, the plans have been closed to new entrants, who instead can participate in defined contribution plans.

One of the major defined benefit pension plans is a contribution-based plan in which each participant accrues a percentage of salary in a pension account. The pension account is credited annually with interest based on a rate that is linked to the average yield on one-year US government bonds. For the other major defined benefit pension plan, retirement benefits accrue based on the career-average earnings of each individual plan participant. Former employees with vested benefits have the option to take a lump sum payment or a lifetime annuity commencing early or at retirement age.

As required under local state pension laws, both plans have fiduciaries who, together with UBS AG, are responsible for the governance of the plans. UBS AG regularly reviews the contribution strategy for these plans, considering local statutory funding rules and the cost of any premiums that must be paid to the Pension Benefit Guaranty Corporation for having an underfunded plan. In 2019, the contributions made by UBS AG were USD 29 million (2018: USD 42 million).

The plan assets for both plans are invested in a diversified portfolio of financial assets. Each pension plan's fiduciaries are responsible for the investment decisions with respect to the plan assets. Both US plans apply a liability-driven investment approach to support the volatility management in the net asset / liability position. Derivative instruments may be employed to manage volatility.

The employer contributions expected to be made to the US defined benefit pension plans in 2020 are estimated at USD 9 million.

German pension plans

There are two different defined benefit pension plans in Germany, and both are contribution-based plans. No plan assets are set aside to fund these plans, and benefits are paid directly by UBS AG. The normal retirement age for the participants in the German plans is 65. Within the larger of the two plans, each participant accrues a percentage of salary in a pension account. The accumulated account balance of the plan participant is credited on an annual basis with guaranteed interest at a rate of 5%. In the other plan, amounts are accrued annually based on employee elections related to variable compensation. For this plan, the accumulated account balance is credited on an annual basis with a guaranteed interest rate of 6% for amounts accrued before 2010, of 4% for amounts accrued from 2010 to 2017 and of 0.9% for amounts accrued after 2017. Both plans are regulated under German pension law, under which the responsibility to pay pension benefits when they are due rests entirely with UBS AG. For these plans, a portion of the pension payments is directly increased in line with price inflation.

The benefits expected to be paid by UBS AG to the participants of the German plans in 2020 are estimated at USD 10 million.

Financial information by plan

The tables on the following pages provide an analysis of the movement in the net asset / liability recognized on the balance sheet for defined benefit pension plans, as well as an analysis of amounts recognized in net profit and in *Other comprehensive income*.

Note 29 Pension and other post-employment benefit plans (continued)

Defined benefit pension plans

USD million	Swiss plan		UK plan		US and German plans		Total	
	2019	2018	2019	2018	2019	2018	2019	2018
Defined benefit obligation at the beginning of the year	13,774	14,398	3,192	3,744	1,679	1,816	18,645	19,957
Current service cost	243	251	0	0	6	7	249	258
Interest expense	122	93	92	93	59	55	273	241
Plan participant contributions	149	137	0	0	0	0	149	137
Remeasurements	(61)	(263)	361	(266)	185	(69)	485	(598)
of which: actuarial (gains) / losses due to changes in demographic assumptions	*(125)*	*0*	*(26)*	*(18)*	*3*	*(5)*	*(148)*	*(23)*
of which: actuarial (gains) / losses due to changes in financial assumptions	*1,006*	*(391)*	*421*	*(257)*	*179*	*(69)*	*1,605*	*(716)*
of which: experience (gains) / losses[1,2]	*(942)*	*128*	*(34)*	*8*	*4*	*5*	*(972)*	*142*
Past service cost related to plan amendments	0	(132)	0	4	0	0	0	(128)
Curtailments	0	(17)	0	0	0	0	0	(17)
Benefit payments	(624)	(586)	(135)	(202)	(102)	(112)	(860)	(900)
Foreign currency translation	206	(108)	144	(181)	(8)	(18)	342	(307)
Defined benefit obligation at the end of the year	13,809	13,774	3,654	3,192	1,820	1,679	19,283	18,645
of which: amounts owed to active members	*7,073*	*6,380*	*164*	*146*	*235*	*226*	*7,472*	*6,751*
of which: amounts owed to deferred members	*0*	*0*	*1,559*	*1,434*	*675*	*606*	*2,233*	*2,040*
of which: amounts owed to retirees	*6,735*	*7,394*	*1,931*	*1,612*	*911*	*847*	*9,577*	*9,854*
Fair value of plan assets at the beginning of the year	15,772	16,388	3,032	3,469	1,168	1,265	19,972	21,122
Return on plan assets excluding amounts included in interest income[2]	(30)	(434)	284	(136)	150	(77)	403	(647)
Interest income	142	109	89	86	47	44	278	238
Employer contributions	271	308	242	0	38	51	550	360
Plan participant contributions	149	137	0	0	0	0	149	137
Benefit payments	(624)	(586)	(135)	(202)	(102)	(112)	(860)	(900)
Administration expenses, taxes and premiums paid	(7)	(7)	0	0	(2)	(3)	(9)	(10)
Foreign currency translation	235	(144)	146	(185)	0	0	381	(328)
Fair value of plan assets at the end of the year	15,908	15,772	3,658	3,032	1,299	1,168	20,864	19,972
Asset ceiling effect at the beginning of the year	1,998	1,990	0	0	0	0	1,998	1,990
Interest expense on asset ceiling effect	18	14	0	0	0	0	18	14
Asset ceiling effect excluding interest expense and foreign currency translation on asset ceiling effect	46	30	0	0	0	0	46	30
Foreign currency translation	36	(36)	0	0	0	0	36	(36)
Asset ceiling effect at the end of the year	2,099	1,998	0	0	0	0	2,099	1,998
Net defined benefit asset / (liability)	0	0	4	(160)	(521)	(511)	(518)	(671)
Movement in the net asset / (liability) recognized on the balance sheet								
Net asset / (liability) recognized on the balance sheet at the beginning of the year	0	0	(160)	(275)	(511)	(550)	(671)	(825)
Net periodic expenses recognized in net profit	(248)	(108)	(3)	(11)	(21)	(22)	(271)	(141)
Gains / (losses) recognized in other comprehensive income	(15)	(201)	(78)	130	(35)	(8)	(128)	(79)
Employer contributions	271	308	242	0	38	51	550	360
Foreign currency translation	(8)	0	2	(4)	8	18	2	14
Net asset / (liability) recognized on the balance sheet at the end of the year	0	0	4	(160)	(521)	(511)	(518)	(671)
Funded and unfunded plans								
Defined benefit obligation from funded plans	13,809	13,774	3,654	3,192	1,319	1,219	18,782	18,184
Defined benefit obligation from unfunded plans	0	0	0	0	501	460	501	460
Plan assets	15,908	15,772	3,658	3,032	1,299	1,168	20,864	19,972
Surplus / (deficit)	2,099	1,998	4	(160)	(521)	(511)	1,582	1,327
Asset ceiling effect	2,099	1,998	0	0	0	0	2,099	1,998
Net defined benefit asset / (liability)	0	0	4	(160)	(521)	(511)	(518)	(671)

1 Experience (gains) / losses are a component of actuarial remeasurements of the defined benefit obligation that reflect the effects of differences between the previous actuarial assumptions and what has actually occurred. 2 Includes the effect from employees transferring between UBS AG and UBS Business Solutions during the period.

Note 29 Pension and other post-employment benefit plans (continued)

Analysis of amounts recognized in net profit

USD million	Swiss plan		UK plan		US and German plans		Total	
For the year ended	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18
Current service cost	243	251	0	0	6	7	249	258
Interest expense related to defined benefit obligation	122	93	92	93	59	55	273	241
Interest income related to plan assets	(142)	(109)	(89)	(86)	(47)	(44)	(278)	(238)
Interest expense on asset ceiling effect	18	14	0	0	0	0	18	14
Administration expenses, taxes and premiums paid	7	7	0	0	2	3	9	10
Past service cost related to plan amendments	0	(132)	0	4	0	0	0	(128)
Curtailments	0	(17)	0	0	0	0	0	(17)
Net periodic expenses recognized in net profit	248	108	3	11	21	22	271	141

Analysis of amounts recognized in other comprehensive income (OCI)

USD million	Swiss plan		UK plan		US and German plans		Total	
For the year ended	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18
Remeasurement of defined benefit obligation	61	263	(361)	266	(185)	69	(485)	598
Return on plan assets excluding amounts included in interest income	(30)	(434)	284	(136)	150	(77)	403	(647)
Asset ceiling effect excluding interest expense and foreign currency translation on asset ceiling effect	(46)	(30)	0	0	0	0	(46)	(30)
Total gains / (losses) recognized in other comprehensive income, before tax	(15)	(201)	(78)	130	(35)	(8)	(128)	(79)

The table below provides information about the duration of the DBO and the timing for expected benefit payments.

	Swiss plan		UK plan		US and German plans[1]	
	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18
Duration of the defined benefit obligation (in years)	15.2	14.5	20.2	19.5	10.1	9.8
Maturity analysis of benefits expected to be paid						
USD million						
Benefits expected to be paid within 12 months	687	704	93	82	121	108
Benefits expected to be paid between 1 and 3 years	1,383	1,439	209	187	228	216
Benefits expected to be paid between 3 and 6 years	2,048	2,170	384	345	346	336
Benefits expected to be paid between 6 and 11 years	3,232	3,446	748	701	548	566
Benefits expected to be paid between 11 and 16 years	2,899	3,140	807	770	455	494
Benefits expected to be paid in more than 16 years	9,136	10,253	3,913	3,927	721	798

1 The duration of the defined benefit obligation represents a weighted average across US and German plans.

Actuarial assumptions

The measurement of each pension plan's DBO considers different actuarial assumptions. Changes in those assumptions lead to volatility in the DBO. The following significant actuarial assumptions are applied:

- Discount rate: the discount rate is based on the yield of high-quality corporate bonds quoted in an active market in the currency of the respective pension plan. Consequently, a decrease in the yield of high-quality corporate bonds increases the DBO. Conversely, an increase in the yield of high-quality corporate bonds decreases the DBO.
- Rate of salary increase: an increase in the salary of plan participants generally increases the DBO, specifically for the Swiss and German plans. For the UK plan, as the plan is closed for future service, UBS AG employees no longer accrue future service benefits and thus salary increases have no effect on the DBO. For the US plans, only a small percentage of the total population continues to accrue benefits for future service and therefore the effect of a salary increase on the DBO is minimal.
- Rate of pension increase: for the Swiss plan, there is no automatic indexing of pensions. Any increase would be decided by the Pension Foundation Board. For the US plans, there is also no automatic indexing of pensions. For the UK plan, pensions are automatically indexed to price inflation as per plan rules and local pension legislation. The German plans are also automatically indexed and a portion of the pensions are directly increased by price inflation. An increase in price inflation in the UK or Germany increases the respective plan's DBO.
- Rate of interest credit on retirement savings: the Swiss plan and one of the US plans have retirement saving balances that are increased annually by an interest credit rate. For each of these plans, an increase in the interest credit rate increases the plan's DBO.
- Life expectancy: most of UBS AG's defined benefit pension plans are obligated to provide guaranteed lifetime pension benefits. The DBO for all plans is calculated using an underlying best estimate of the life expectancy of plan participants. An increase in the life expectancy of plan participants increases the plan's DBO.

The actuarial assumptions used for the pension plans are based on the economic conditions prevailing in the jurisdiction in which they are offered.

→ **Refer to Note 1a item 7 for a description of the accounting policy for defined benefit pension plans**

Changes in actuarial assumptions

UBS AG regularly reviews the actuarial assumptions used in calculating its DBO to determine their continuing relevance.

Swiss pension plan

In 2019, a net gain of USD 61 million was recognized in *Other comprehensive income* (OCI) related to the remeasurement of the DBO. This was primarily due to experience gains of USD 942 million, reflecting differences between the previous actuarial assumptions and what actually occurred, USD 149 million resulting from a decrease in the expected rate of interest credit on retirement savings, USD 65 million due to an update in the disability assumption and USD 60 million due to an update in the turnover assumption. This effect was partly offset by a market-driven decrease in the discount rate, which resulted in an OCI loss of USD 1,156 million.

In 2018, a net gain of USD 263 million was recognized in OCI related to the remeasurement of the DBO. This was primarily due to a market-driven increase in the discount rate, which resulted in an OCI gain of USD 478 million. This effect was partially offset by experience losses of USD 128 million, reflecting differences between the previous actuarial assumptions and what actually occurred, and market-driven changes to the assumed rate of interest credit on retirement savings, which resulted in a loss of USD 77 million. Changes in other assumptions were not significant.

UK pension plan

In 2019, a loss of USD 361 million was recognized in OCI related to the remeasurement of the DBO for the UK plan. This was primarily due to a market-driven decrease in the discount rate, which resulted in an OCI loss of USD 552 million. This loss was partially offset by a gain of USD 132 million due to a decrease in the expected rate of pension increase, experience gains of USD 34 million which reflect differences between the previous actuarial assumptions and what actually occurred, and a gain of USD 21 million due to an update of the mortality improvement assumption.

In 2018, a net gain of USD 266 million was recognized in OCI related to the remeasurement of the DBO for the UK plan. This was primarily due to a market-driven increase in the discount rate, which resulted in an OCI gain of USD 219 million, as well as changes in the pension increase assumption, which resulted in an OCI gain of USD 37 million.

US and German pension plans

In 2019, a loss of USD 185 million was recognized in OCI related to the remeasurement of the DBO for the US and German plans, compared with a net gain of USD 69 million in 2018. OCI gains and losses in both years were primarily driven by market-driven movements in discount rates.

Note 29 Pension and other post-employment benefit plans (continued)

The tables below show the significant actuarial assumptions used in calculating the DBO at the end of the year.

Significant actuarial assumptions

	Swiss plan		UK plan		US and German plans[1]	
In %	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18
Discount rate	0.29	0.92	2.07	2.90	2.58	3.69
Rate of salary increase	1.50	1.50	0.00	0.00	2.37	2.81
Rate of pension increase	0.00	0.00	2.92	3.10	1.80	1.50
Rate of interest credit on retirement savings	0.49	0.92	0.00	0.00	2.57	3.70

1 Represents weighted average assumptions across US and German plans.

Mortality tables and life expectancies for major plans

		Life expectancy at age 65 for a male member currently			
		aged 65		aged 45	
Country	Mortality table	31.12.19	31.12.18	31.12.19	31.12.18
Switzerland	BVG 2015 G with CMI 2016 projections	21.6	21.6	23.1	23.1
UK	S2PA with CMI 2018 projections[1]	23.3	23.4	24.5	24.6
USA	RP2014 WCHA with MP2019 projection scale[2]	22.8	22.8	24.3	24.3
Germany	Dr. K. Heubeck 2018 G	20.7	20.5	23.5	23.3

		Life expectancy at age 65 for a female member currently			
		aged 65		aged 45	
Country	Mortality table	31.12.19	31.12.18	31.12.19	31.12.18
Switzerland	BVG 2015 G with CMI 2016 projections	23.6	23.5	25.1	25.0
UK	S2PA with CMI 2018 projections[1]	25.1	25.2	26.4	26.5
USA	RP2014 WCHA with MP2019 projection scale[2]	24.4	24.4	25.9	26.0
Germany	Dr. K. Heubeck 2018 G	24.2	24.1	26.4	26.3

1 In 2018, the mortality table S2PA with CMI 2017 projections was used. 2 In 2018, the mortality table RP2014 WCHA with MP2018 projection scale was used.

Sensitivity analysis of significant actuarial assumptions

The table below presents a sensitivity analysis for each significant actuarial assumption, showing how the DBO would have been affected by changes in the relevant actuarial assumption that were reasonably possible at the balance sheet date. Unforeseen circumstances may arise, which could result in variations that are outside the range of alternatives deemed reasonably possible. Caution should be used in extrapolating the sensitivities below on the DBO as the sensitivities may not be linear.

Sensitivity analysis of significant actuarial assumptions[1]

Increase / (decrease) in defined benefit obligation	Swiss plan		UK plan		US and German plans	
USD million	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18
Discount rate						
Increase by 50 basis points	(853)	(797)	(346)	(292)	(86)	(77)
Decrease by 50 basis points	972	904	395	333	93	84
Rate of salary increase						
Increase by 50 basis points	49	45	–[2]	–[2]	1	1
Decrease by 50 basis points	(47)	(43)	–[2]	–[2]	(1)	(1)
Rate of pension increase						
Increase by 50 basis points	673	643	331	260	7	6
Decrease by 50 basis points	–[3]	–[3]	(299)	(262)	(7)	(6)
Rate of interest credit on retirement savings						
Increase by 50 basis points	107	141	–[4]	–[4]	9	9
Decrease by 50 basis points	(62)[5]	(134)	–[4]	–[4]	(9)	(9)
Life expectancy						
Increase in longevity by one additional year	459	446	154	122	51	42

1 The sensitivity analyses are based on a change in one assumption while holding all other assumptions constant, so that interdependencies between the assumptions are excluded. 2 As the plan is closed for future service, a change in assumption is not applicable. 3 As the assumed rate of pension increase was 0% as of 31 December 2019 and as of 31 December 2018, a downward change in assumption is not applicable. 4 As the UK plan does not provide interest credits on retirement savings, a change in assumption is not applicable. 5 As of 31 December 2019, 18.5% of retirement savings were subject to a legal minimum rate of 1.00%.

Note 29 Pension and other post-employment benefit plans (continued)

Fair value of plan assets

The tables below provide information about the composition and fair value of plan assets of the Swiss, the UK and the US pension plans.

Composition and fair value of plan assets

Swiss plan

	31.12.19				31.12.18			
	Fair value			Plan asset allocation %	Fair value			Plan asset allocation %
USD million	Quoted in an active market	Other	Total		Quoted in an active market	Other	Total	
Cash and cash equivalents	90	0	90	1	83	0	83	1
Real estate / property								
Domestic	0	1,720	1,720	11	0	1,808	1,808	11
Foreign	0	90	90	1	0	0	0	0
Investment funds								
Equity								
Domestic	395	0	395	2	383	0	383	2
Foreign	3,433	932	4,365	27	3,492	925	4,417	28
Bonds[1]								
Domestic, AAA to BBB–	1,825	0	1,825	11	1,569	0	1,569	10
Foreign, AAA to BBB–	3,315	0	3,315	21	3,781	0	3,781	24
Foreign, below BBB–	563	0	563	4	544	0	544	3
Real estate								
Foreign	0	0	0	0	0	7	7	0
Other	904	2,230	3,134	20	316	2,528	2,844	18
Other investments	301	109	411	3	324	11	335	2
Total fair value of plan assets	10,827	5,081	15,908	100	10,493	5,279	15,772	100

	31.12.19	31.12.18
Total fair value of plan assets	15,908	15,772
of which:[2]		
Bank accounts at UBS AG	*90*	*80*
UBS AG debt instruments	*4*	*8*
UBS Group AG shares	*12*	*15*
Securities lent to UBS AG[3]	*748*	*957*
Property occupied by UBS AG	*50*	*54*
Derivative financial instruments, counterparty UBS AG[3]	*6*	*21*

1 The bond credit ratings are primarily based on Standard & Poor's credit ratings. Ratings AAA to BBB– and below BBB– represent investment grade and non-investment grade ratings, respectively. In cases where credit ratings from other rating agencies were used, these were converted to the equivalent rating in the Standard & Poor's rating classification. 2 Bank accounts at UBS AG encompass accounts in the name of the Swiss pension fund. The other positions disclosed in the table encompass both direct investments in UBS AG instruments and UBS Group AG shares and indirect investments, i.e., those made through funds that the pension fund invests in. 3 Securities lent to UBS AG and derivative financial instruments are presented gross of any collateral. Securities lent to UBS AG were fully covered by collateral as of 31 December 2019 and 31 December 2018. Net of collateral, derivative financial instruments amounted to USD 3 million as of 31 December 2019 (31 December 2018: USD 6 million).

Note 29 Pension and other post-employment benefit plans (continued)

Composition and fair value of plan assets (continued)

UK plan

	31.12.19				31.12.18			
	Fair value			Plan asset allocation %	Fair value			Plan asset allocation %
USD million	Quoted in an active market	Other	Total		Quoted in an active market	Other	Total	
Cash and cash equivalents	141	0	141	4	143	0	143	5
Bonds[1]								
Domestic, AAA to BBB–	1,810	0	1,810	49	1,604	0	1,604	53
Investment funds								
Equity								
Domestic	33	0	33	1	26	0	26	1
Foreign	916	0	916	25	658	0	658	22
Bonds[1]								
Domestic, AAA to BBB–	610	117	727	20	587	93	680	22
Domestic, below BBB–	22	0	22	1	15	0	15	0
Foreign, AAA to BBB–	310	0	310	8	258	0	258	9
Foreign, below BBB–	108	0	108	3	51	0	51	2
Real estate								
Domestic	103	18	122	3	102	28	131	4
Foreign	0	19	19	1	0	0	0	0
Insurance contracts	0	7	7	0	0	0	0	0
Derivatives	3	0	3	0	0	0	0	0
Asset-backed securities	0	6	6	0	21	2	22	1
Other investments[2]	(572)	7	(565)	(15)	(565)	9	(556)	(18)
Total fair value of plan assets	3,483	175	3,658	100	2,900	132	3,032	100

1 The bond credit ratings are primarily based on Standard & Poor's credit ratings. Ratings AAA to BBB– and below BBB– represent investment grade and non-investment grade ratings, respectively. In cases where credit ratings from other rating agencies were used, these were converted to the equivalent rating in Standard & Poor's rating classification. 2 Mainly relates to repurchase arrangements on UK treasury bonds.

Note 29 Pension and other post-employment benefit plans (continued)

Composition and fair value of plan assets (continued)

US plans

	31.12.19				31.12.18			
	Fair value			Plan asset allocation %	Fair value			Plan asset allocation %
USD million	Quoted in an active market	Other	Total		Quoted in an active market	Other	Total	
Cash and cash equivalents	27	0	27	2	27	0	27	2
Bonds[1]								
Domestic, AAA to BBB–	475	0	475	37	462	0	462	40
Domestic, below BBB–	2	0	2	0	2	0	2	0
Foreign, AAA to BBB–	99	0	99	8	92	0	92	8
Foreign, below BBB–	3	0	3	0	3	0	3	0
Investment funds								
Equity								
Domestic	208	0	208	16	143	0	143	12
Foreign	161	0	161	12	157	0	157	13
Bonds[1]								
Domestic, AAA to BBB–	176	0	176	14	104	0	104	9
Domestic, below BBB–	28	0	28	2	23	0	23	2
Foreign, AAA to BBB–	17	0	17	1	56	0	56	5
Foreign, below BBB–	3	0	3	0	6	0	6	1
Real estate								
Domestic	0	13	13	1	0	13	13	1
Other	69	0	69	5	64	0	64	5
Insurance contracts	0	18	18	1	0	17	17	1
Total fair value of plan assets	1,268	31	1,299	100	1,139	29	1,168	100

1 The bond credit ratings are primarily based on Standard & Poor's credit ratings. Ratings AAA to BBB– and below BBB– represent investment grade and non-investment grade ratings, respectively. In cases where credit ratings from other rating agencies were used, these were converted to the equivalent rating in Standard & Poor's rating classification.

Note 29 Pension and other post-employment benefit plans (continued)

b) Post-employment medical insurance plans

In the US and the UK, UBS AG offers post-employment medical insurance benefits that contribute to the health care coverage of certain employees and their beneficiaries after retirement. The UK post-employment medical insurance plan is closed to new entrants. In the US, retiree medical premiums are subsidized for eligible participants who retired before 2014. These plans are not prefunded.

In 2018, UBS AG announced changes to one of the US post-employment medical insurance plans that replaced the UBS AG retiree medical subsidy with a new subsidy to purchase medical coverage through a private Medicare exchange. This change reduced the post-employment benefit obligation by USD 14 million, resulting in a corresponding gain recognized in the income statement in 2018.

As of 31 December 2019, the net liability recognized for post-employment medical insurance plans was USD 62 million (31 December 2018: USD 62 million). An expense of USD 2 million was recognized in the income statement in 2019 (2018: gain of USD 11 million; 2017: expense of USD 3 million) and a loss of USD 3 million in *Other comprehensive income* in 2019 (2018: gain of USD 7 million; 2017: gain of USD 1 million).

The benefits expected to be paid to participants in 2020 are estimated at USD 5 million.

The measurement of each medical insurance plan's post-employment benefit obligation considers different actuarial assumptions. Reasonably possible changes in actuarial assumptions would not lead to material movements in the net liability recognized as of 31 December 2019 and as of December 2018.

c) Defined contribution plans

UBS AG sponsors a number of defined contribution plans in locations outside Switzerland. The locations with significant defined contribution plans are the US and the UK. Certain plans allow employees to make contributions and earn matching or other contributions from UBS AG. Employer contributions to defined contribution plans are recognized as an expense, which, for 2019, 2018 and 2017, amounted to USD 278 million, USD 223 million and USD 236 million, respectively.

d) Related-party disclosure

UBS AG is the principal provider of banking services for the pension fund of UBS AG in Switzerland. In this capacity, UBS AG is engaged to execute most of the pension fund's banking activities. These activities can include, but are not limited to, trading, securities lending and borrowing and derivative transactions. The non-Swiss UBS AG pension funds do not have a similar banking relationship with UBS AG.

Also, UBS AG leases certain properties that are owned by the Swiss pension fund. As of 31 December 2019, the minimum commitment toward the Swiss pension fund under the related leases was approximately USD 8 million (31 December 2018: USD 10 million).

→ **Refer to the "Composition and fair value of plan assets" table in Note 29a for more information about fair value of investments in UBS AG and UBS Group AG instruments held by the Swiss pension fund**

The following amounts have been received or paid by UBS AG from and to the pension and other post-employment benefit plans located in Switzerland, the UK and the US in respect of these banking activities and arrangements.

Related-party disclosure

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Received by UBS AG			
Fees	19	22	36
Paid by UBS AG			
Rent	2	3	5
Dividends, capital repayments and interest	10	10	10

The transaction volumes in UBS Group AG shares and UBS AG debt instruments and the balances of UBS Group AG shares held as of 31 December were:

Transaction volumes – UBS Group AG shares and UBS AG debt instruments

	For the year ended	
	31.12.19	31.12.18
Financial instruments bought by pension funds		
UBS Group AG shares (in thousands of shares)	929	831
UBS AG debt instruments (par values, USD million)	1	9
Financial instruments sold by pension funds or matured		
UBS Group AG shares (in thousands of shares)	1,778	547
UBS AG debt instruments (par values, USD million)	5	2

UBS Group AG shares held by pension and other post-employment benefit plans

	31.12.19	31.12.18
Number of shares (in thousands of shares)	14,991	15,934
Fair value (USD million)	189	197

Note 30 Employee benefits: variable compensation

a) Plans offered

UBS has several share-based and other compensation plans that align the interests of Group Executive Board (GEB) members and other employees with the interests of investors. These compensation plans are also designed to meet regulatory requirements. The most significant compensation plans are described below.

For the majority of variable compensation awards granted under such plans to employees of UBS AG, the grantor entity is UBS Group AG. Expenses associated with these awards are charged by UBS Group AG to UBS AG. For the purpose of this Note, references to shares refer to UBS Group AG shares.

→ **Refer to Note 1a item 6 for a description of the accounting policy related to share-based and other deferred compensation plans**

Mandatory deferred compensation plans

Equity Ownership Plan (EOP)

The EOP is a mandatory deferred share-based compensation plan for all employees with total annual compensation greater than USD / CHF 300,000. Starting with performance year 2019, GEB members, Group Managing Directors (GMDs) and Vice Chairs receive Long-Term Incentive Plan (LTIP) awards instead of EOP.

EOP awards granted to GEB members and GMDs in 2019 and prior years, as well as EOP awards granted to certain other employees, will only vest if both Group and business division performance conditions are met. For awards granted in 2019 and 2020, related to the performance years 2018 and 2019, respectively, the Group performance condition is based on the average reported return on common equity tier 1 capital (RoCET1). For awards granted in 2018 and before, the Group performance condition is based on the average adjusted return on tangible equity (RoTE) excluding deferred tax assets over the performance period. Business division performance is measured on the basis of their average adjusted return on attributed equity (RoAE). For Corporate Center employees, it is measured on the basis of the average operating businesses' adjusted RoAE.

Certain awards, such as replacement awards issued outside the normal performance year cycle, may take the form of deferred cash under the EOP plan rules.

Notional shares represent a promise to receive UBS shares at vesting and do not carry voting rights during the vesting period. Awards granted generally carry a dividend equivalent that may be paid in notional shares or cash and that vests on the same terms and conditions as the awards. However, starting with awards granted in 2018 for the performance year 2017, European Banking Authority guidelines do not permit individuals who are deemed to be Material Risk Takers (MRTs) to receive dividend or interest payments on instruments awarded as deferred variable compensation. Where dividend payments are not permitted, the grant price of the EOP award is adjusted for the expected dividend yield over the vesting period to reflect the fair value of the non-dividend-bearing award.

Awards are settled by delivering UBS shares at vesting, except in jurisdictions where this is not permitted for legal or tax reasons. EOP awards generally vest in equal installments after two and three years following the granting of such awards. Awards granted to GEB members in 2019 and prior years generally vest after three, four and five years. The awards are generally forfeitable upon, among other circumstances, voluntary termination of employment with UBS.

Long-Term Incentive Plan

The LTIP is a mandatory deferred share-based compensation plan for senior leaders of the Group (i.e., GEB members, GMDs and Vice Chairs). LTIP awards are granted for the first time in 2020 as part of the performance award pool for 2019.

The final number of notional shares delivered at vesting depends on two equally weighted performance metrics: average reported return on CET1 capital (RoCET1) and relative total shareholder return (rTSR), which measures UBS's total shareholder return against an index consisting of global systemically important banks as determined by the Financial Stability Board. These performance metrics are separately valued as of the date of grant and (re-)assessed over a three-year performance period starting in the year of grant. For both metrics there is a threshold level, which would result in a 33% payout, and a maximum level, which would result in a 100% payout. Any performance between the threshold and the maximum level would result in a linear payout between 33% and 100%.

The final number of shares as determined at the end of the three-year performance period will vest in three equal installments in each of the three years following the performance period for GEB members, and cliff-vest in the first year following the performance period for GMDs and Vice Chairs. The awards are generally forfeitable upon, among other circumstances, voluntary termination of employment with UBS.

In general, the form of the equity awards (notional shares), the entitlement to dividend equivalents and the settlement method is the same as for EOP awards.

Deferred Contingent Capital Plan (DCCP)

The DCCP is a mandatory deferred compensation plan for all employees with total annual compensation greater than USD / CHF 300,000.

DCCP awards take the form of notional additional tier 1 (AT1) capital instruments, which, at the discretion of UBS, can be settled in either a cash payment or a perpetual, marketable AT1 capital instrument. DCCP awards vest in full after five years, and up to seven years for UK senior management functions, unless there is a trigger event.

Awards are forfeited if a viability event occurs, i.e., if FINMA notifies the firm in writing that the DCCP awards must be written down to prevent an insolvency, bankruptcy or failure of UBS, or if UBS receives a commitment of extraordinary support from the public sector that is necessary to prevent such an event. Additionally, they are also written down if the Group's common equity tier 1 capital ratio falls below 10% for GEB members and below 7% for all other employees. As an additional performance condition, GEB members forfeit 20% of their award for each loss-making year during the vesting period.

Interest payments on DCCP awards are paid at the discretion of UBS. Where interest payments are not permitted, such as for MRTs, the DCCP award reflects the fair value of the granted non-interest-bearing award.

The awards are generally forfeitable upon, among other circumstances, voluntary termination of employment with UBS.

Asset Management EOP

In order to align deferred compensation of certain Asset Management employees with the performance of the investment funds they manage, awards are granted to such employees in the form of cash-settled notional investment funds. The amount delivered depends on the value of the underlying investment funds at the time of vesting. The awards are generally forfeitable upon, among other circumstances, voluntary termination of employment with UBS.

Financial advisor variable compensation

In line with market practice for US wealth management businesses, the compensation for US financial advisors in Global Wealth Management is comprised of production payout and deferred compensation awards. Production payout is primarily based on compensable revenue and is paid monthly.

Financial advisors may also qualify for deferred compensation awards, which generally vest over a six-year period. The awards are based on strategic performance measures, including production, length of service with the firm and net new business. Production payout rates and deferred compensation awards may be reduced for, among other things, errors, negligence or carelessness, or a failure to comply with the firm's rules, standards, practices and policies or applicable laws and regulations.

Strategic objective awards

Strategic objective awards are deferred compensation awards based on strategic performance measures, including production, length of service with the firm and net new business. These awards are granted in the form of both deferred share-based and deferred cash-based awards, with a vesting period of up to six years.

Other compensation plans

Equity Plus Plan (Equity Plus)

Equity Plus is a voluntary share-based compensation plan that provides eligible employees with the opportunity to purchase UBS shares at market value and receive one notional share for every three shares purchased, up to a maximum annual limit. Share purchases may be made annually from the performance award and/or monthly through deductions from salary. If the shares purchased are held until three years from the start of the associated plan year and, in general, if the employee remains employed by UBS, the notional shares vest. Employees are entitled to receive a dividend equivalent which may be paid in notional shares and/or cash.

Role-based allowances (RBA)

Certain employees of legal entities regulated in the EU may receive an RBA in addition to their base salary. This allowance reflects the market value of a specific role and is fixed, non-forfeitable compensation. Unlike salary, an RBA is paid only as long as the employee is in such a role. RBA consist of a cash portion and, where applicable, a blocked UBS share award. Such shares will be unblocked in equal installments after two and three years. The compensation expense is recognized in the year of grant.

Note 30 Employee benefits: variable compensation (continued)

Discontinued deferred compensation plans

The following plans have been discontinued.

Key Employee Stock Appreciation Rights Plan (KESAP) and Key Employee Stock Option Plan (KESOP)

Until 2009, certain key and high-potential employees were granted discretionary share-settled stock appreciation rights (SARs) or options on UBS shares with a strike price not less than the market value of a UBS share on the date of grant. SARs gave employees the right to receive a number of UBS shares equal to the increase in market price of the UBS share between the grant date and the exercise date. One option entitled the holder to acquire one registered UBS share at the option's strike price. SARs and options were settled by delivering UBS shares, except in jurisdictions where this was not permitted for legal reasons. All unexercised options and stock appreciation rights under these awards expired in 2019.

PartnerPlus

Through performance year 2016, financial advisor strategic objective awards were partly granted under the PartnerPlus deferred cash plan. In addition to such granted awards (UBS company contributions), participants were allowed to voluntarily contribute additional amounts otherwise payable as production payout up to a certain percentage, which vested upon contribution. Company contributions and voluntary contributions were credited with interest in accordance with the terms of the plan. Rather than being credited with interest, a participant could elect to have voluntary contributions, along with vested company contributions, credited with notional earnings based on the performance of various mutual funds. Company contributions and interest on both company and voluntary contributions ratably vest in 20% installments six to 10 years following grant date. Company contributions and interest on notional earnings on both company and voluntary contributions are forfeitable under certain circumstances.

GrowthPlus

GrowthPlus is a compensation plan for selected financial advisors whose revenue production and length of service exceeded defined thresholds from 2010 to 2017. Awards were granted in 2010, 2011, 2015 and 2018. The awards are cash-based and are distributed over seven years, with the exception of 2018 awards, which are distributed over five years.

Note 30 Employee benefits: variable compensation (continued)

b) Effect on the income statement

Effect on the income statement for the financial year and future periods

The table below provides information about compensation expenses related to total variable compensation, including financial advisor variable compensation, that were recognized in the financial year ended 31 December 2019, as well as expenses that were deferred and will be recognized in the income statement for 2020 and later.

The majority of expenses deferred to 2020 and later that are related to the performance year 2019 relates to awards granted in February 2020. The total unamortized compensation expense for unvested share-based awards granted up to 31 December 2019 will be recognized in future periods over a weighted average period of 2.4 years.

Variable compensation including financial advisor variable compensation

	Expenses recognized in 2019			Expenses deferred to 2020 and later[1]		
USD million	Related to the performance year 2019	Related to prior performance years	Total	Related to the performance year 2019	Related to prior performance years	Total
Non-deferred cash	1,706	(24)	1,682	0	0	0
Deferred compensation awards	287	576	863	413	592	1,005
of which: Equity Ownership Plan	*115*	*294*	*410*	*198*	*213*	*412*
of which: Deferred Contingent Capital Plan	*109*	*256*	*365*	*166*	*356*	*521*
of which: Long-Term Incentive Plan	*38*	*0*	*38*	*23*	*0*	*23*
of which: Asset Management EOP	*25*	*26*	*51*	*26*	*23*	*49*
Total variable compensation – performance awards	1,993	553	2,545	413	592	1,005
Replacement payments	5	49	55	43	30	73
Forfeiture credits	0	(84)	(84)	0	0	0
Severance payments	110	0	110	0	0	0
Retention plan and other payments	24	27	52	22	29	51
Deferred Contingent Capital Plan: interest expense	0	93	93	50	169	219
Total variable compensation – other	140	85	225	115	228	343
Financial advisor variable compensation	3,233	268	3,501	197	710	907
of which: non-deferred cash	*3,064*	*0*	*3,064*	*0*	*0*	*0*
of which: deferred share-based awards	*57*	*48*	*106*	*54*	*130*	*183*
of which: deferred cash-based awards	*112*	*219*	*331*	*144*	*580*	*724*
Compensation commitments with recruited financial advisors[2]	32	510	542	350	1,617	1,967
Total financial advisor variable compensation	3,265	778	4,043	548	2,327	2,874
Total variable compensation including FA variable compensation	5,398	1,416	6,814[3]	1,076	3,146	4,222

1 Estimate as of 31 December 2019. Actual amounts to be expensed in future periods may vary, e.g., due to forfeiture of awards. 2 Reflects expenses related to compensation commitments with financial advisors entered into at the time of recruitment that are subject to vesting requirements. Amounts reflected as deferred expenses represent the maximum deferred exposure as of the balance sheet date. 3 Includes USD 595 million in expenses related to share-based compensation (performance awards: USD 448 million; other variable compensation: USD 42 million; financial advisor compensation: USD 106 million). A further USD 54 million in expenses related to share-based compensation was recognized within other expense categories included in Note 6 (salaries: USD 10 million, related to role-based allowances; social security: USD 23 million; other personnel expenses: USD 22 million related to the Equity Plus Plan).

Note 30 Employee benefits: variable compensation (continued)

Variable compensation including financial advisor variable compensation (continued)

	Expenses recognized in 2018			Expenses deferred to 2019 and later[1]		
USD million	Related to the performance year 2018	Related to prior performance years	Total	Related to the performance year 2018	Related to prior performance years	Total
Non-deferred cash	1,896	(26)	1,870	0	0	0
Deferred compensation awards	360	564	924	570	638	1,208
of which: Equity Ownership Plan	*208*	*299*	*507*	*316*	*238*	*554*
of which: Deferred Contingent Capital Plan	*126*	*235*	*361*	*232*	*373*	*605*
of which: Asset Management EOP	*25*	*28*	*53*	*22*	*26*	*48*
of which: other performance awards	*0*	*2*	*2*	*0*	*1*	*1*
Total variable compensation – performance awards	2,256	538	2,794	570	638	1,208
Replacement payments	7	61	68	58	40	99
Forfeiture credits	0	(136)	(136)	0	0	0
Severance payments	106	0	106	0	0	0
Retention plan and other payments	31	33	64	23	33	56
Deferred Contingent Capital Plan: interest expense	0	116	116	96	191	288
Total variable compensation – other	144	75	220	178	264	442
Financial advisor variable compensation	3,233	237	3,470	128	639	767
of which: non-deferred cash	*3,089*	*0*	*3,089*	*0*	*0*	*0*
of which: deferred share-based awards	*51*	*44*	*95*	*52*	*131*	*183*
of which: deferred cash-based awards	*93*	*193*	*286*	*76*	*507*	*584*
Compensation commitments with recruited financial advisors[2]	33	551	584	357	1,883	2,240
Total financial advisor variable compensation	3,266	789	4,054	484	2,522	3,006
Total variable compensation including FA variable compensation	5,666	1,402	7,068[3]	1,233	3,424	4,656

1 Estimate as of 31 December 2018. Actual amounts expensed may vary, e.g., due to forfeiture of awards. 2 Reflects expenses related to compensation commitments with financial advisors entered into at the time of recruitment that are subject to vesting requirements. Amounts reflected as deferred expenses represent the maximum deferred exposure as of the balance sheet date. 3 Includes USD 612 million in expenses related to share-based compensation (performance awards: USD 507 million; other variable compensation: USD 10 million; financial advisor compensation: USD 95 million). A further USD 44 million in expenses related to share-based compensation was recognized within other expense categories included in Note 6 (salaries: USD 15 million, related to role-based allowances; social security: USD 7 million; other personnel expenses: USD 22 million, related to the Equity Plus Plan).

Note 30 Employee benefits: variable compensation (continued)

Variable compensation including financial advisor variable compensation (continued)

	Expenses recognized in 2017			Expenses deferred to 2018 and later[1]		
USD million	Related to the performance year 2017	Related to prior performance years	Total	Related to the performance year 2017	Related to prior performance years	Total
Non-deferred cash	1,982	(24)	1,958	0	0	0
Deferred compensation awards	392	704	1,096	589	685	1,274
of which: Equity Ownership Plan	*235*	*364*	*599*	*322*	*286*	*608*
of which: Deferred Contingent Capital Plan	*132*	*304*	*436*	*240*	*369*	*609*
of which: Asset Management EOP	*25*	*32*	*57*	*27*	*27*	*54*
of which: other performance awards	*0*	*4*	*4*	*0*	*3*	*3*
Total variable compensation – performance awards	2,373	680	3,054	589	685	1,274
Replacement payments	12	58	70	82	41	123
Forfeiture credits	0	(106)	(106)	0	0	0
Severance payments	95	0	95	0	0	0
Retention plan and other payments	24	38	62	30	32	62
Deferred Contingent Capital Plan: interest expense	0	110	110	80	218	297
Total variable compensation – other	131	99	231	191	291	482
Financial advisor variable compensation	3,050	260	3,310	156	795	951
of which: non-deferred cash	*2,891*	*0*	*2,891*	*0*	*0*	*0*
of which: deferred share-based awards	*54*	*48*	*102*	*70*	*121*	*191*
of which: deferred cash-based awards	*104*	*212*	*316*	*86*	*674*	*760*
Compensation commitments with recruited financial advisors[2]	31	723	754	369	2,058	2,429
Total financial advisor variable compensation	3,080	984	4,064	526	2,853	3,379
Total variable compensation including FA variable compensation	5,585	1,764	7,349[3]	1,306	3,829	5,135

1 Estimate as of 31 December 2017. Actual amounts expensed may vary, e.g., due to forfeiture of awards. 2 Reflects expenses related to compensation commitments with financial advisors entered into at the time of recruitment that are subject to vesting requirements. Amounts reflected as deferred expenses represent the maximum deferred exposure as of the balance sheet date. 3 Includes USD 726 million in expenses related to share-based compensation (performance awards: USD 599 million; other variable compensation: USD 25 million; financial advisor compensation: USD 102 million). A further USD 97 million in expenses related to share-based compensation was recognized within other expense categories included in Note 6 (salaries: USD 25 million, related to role-based allowances; social security: USD 49 million; other personnel expenses: USD 23 million, related to the Equity Plus Plan).

Note 30 Employee benefits: variable compensation (continued)

c) Outstanding share-based compensation awards

Share and performance share awards

Movements in outstanding share-based awards under the EOP during 2019 and 2018 are provided in the table below. The awards presented are granted by UBS AG, but are based on UBS Group AG shares.

Movements in outstanding share-based compensation awards

	Number of shares 2019	Weighted average grant date fair value (USD)	Number of shares 2018	Weighted average grant date fair value (USD)
Outstanding, at the beginning of the year	201,793	15	404,720	15
Awarded during the year	29,092	11	26,005	13
Distributed during the year	(140,441)	14	(228,932)	15
Forfeited during the year	0	0	0	0
Outstanding, at the end of the year	90,443	14	201,793	15
of which: shares vested for accounting purposes	*56,492*		*133,225*	

The total carrying amount of the liability related to cash-settled share-based awards as of 31 December 2019 and 31 December 2018 was USD 1 million and USD 2 million, respectively.

d) Valuation

UBS share awards

UBS measures compensation expense based on the average market price of the UBS share on the grant date as quoted on the SIX Swiss Exchange, taking into consideration post-vesting sale and hedge restrictions, non-vesting conditions and market conditions, where applicable. The fair value of the share awards subject to post-vesting sale and hedge restrictions is discounted on the basis of the duration of the post-vesting restriction and is referenced to the cost of purchasing an at-the-money European put option for the term of the transfer restriction. The weighted average discount for share and performance share awards granted during 2019 was approximately 22.6% (2018: 18.0%) of the market price of the UBS share. The grant date fair value of notional shares without dividend entitlements also includes a deduction for the present value of future expected dividends to be paid between the grant date and distribution.

Note 31 Interests in subsidiaries and other entities

a) Interests in subsidiaries

UBS AG defines its significant subsidiaries as those entities that, either individually or in aggregate, contribute significantly to UBS AG's financial position or results of operations, based on a number of criteria, including the subsidiaries' equity and their contribution to UBS AG's total assets and profit or loss before tax, in accordance with the requirements set by IFRS 12, Swiss regulations and the rules of the US Securities and Exchange Commission (SEC).

Individually significant subsidiaries

The table below list UBS AG's individually significant subsidiaries as of 31 December 2019. Unless otherwise stated, the subsidiaries listed below have share capital consisting solely of ordinary shares that are held entirely by UBS AG, and the proportion of ownership interest held is equal to the voting rights held by UBS AG.

The country where the respective registered office is located is also the principal place of business. UBS AG operates through a global network of branches and a significant proportion of its business activity is conducted outside Switzerland in the UK, the US, Singapore, Hong Kong and other countries. UBS Europe SE has branches and offices in a number of EU Member States, including Germany, Italy, Luxembourg, Spain and Austria. Share capital is provided in the currency of the legally registered office.

Individually significant subsidiaries of UBS AG as of 31 December 2019[1]

Company	Registered office	Primary business	Share capital in million		Equity interest accumulated in %
UBS Americas Holding LLC	Wilmington, Delaware, USA	Corporate Center	USD	3,150.0[2]	100.0
UBS Americas Inc.	Wilmington, Delaware, USA	Corporate Center	USD	0.0	100.0
UBS Asset Management AG	Zurich, Switzerland	Asset Management	CHF	43.2	100.0
UBS Bank USA	Salt Lake City, Utah, USA	Global Wealth Management	USD	0.0	100.0
UBS Europe SE	Frankfurt, Germany	Global Wealth Management	EUR	446.0	100.0
UBS Financial Services Inc.	Wilmington, Delaware, USA	Global Wealth Management	USD	0.0	100.0
UBS Securities LLC	Wilmington, Delaware, USA	Investment Bank	USD	1,283.1[3]	100.0
UBS Switzerland AG	Zurich, Switzerland	Personal & Corporate Banking	CHF	10.0	100.0

1 Includes direct and indirect subsidiaries of UBS AG. 2 Comprised of common share capital of USD 1,000 and non-voting preferred share capital of USD 3,150,000,000. 3 Comprised of common share capital of USD 100,000 and non-voting preferred share capital of USD 1,283,000,000.

Note 31 Interests in subsidiaries and other entities (continued)

Other subsidiaries

The table below lists other direct and indirect subsidiaries of UBS AG that are not individually significant but that contribute to UBS AG's total assets and aggregated profit before tax thresholds and are thereby disclosed in accordance with the requirements set by the SEC.

Other subsidiaries of UBS AG as of 31 December 2019

Company	Registered office	Primary business	Share capital in million		Equity interest accumulated in %
UBS Asset Management (Hong Kong) Limited	Hong Kong, Hong Kong	Asset Management	HKD	254.0	100.0
UBS Asset Management (Japan) Ltd	Tokyo, Japan	Asset Management	JPY	2,200.0	100.0
UBS Asset Management Life Ltd	London, United Kingdom	Asset Management	GBP	15.0	100.0
UBS Asset Management Switzerland AG	Zurich, Switzerland	Asset Management	CHF	0.5	100.0
UBS Business Solutions US LLC	Wilmington, Delaware, USA	Corporate Center	USD	0.0	100.0
UBS Credit Corp.	Wilmington, Delaware, USA	Global Wealth Management	USD	0.0	100.0
UBS (France) S.A.	Paris, France	Global Wealth Management	EUR	133.0	100.0
UBS Fund Advisor, L.L.C.	Wilmington, Delaware, USA	Global Wealth Management	USD	0.0	100.0
UBS Fund Management (Luxembourg) S.A.	Luxembourg, Luxembourg	Asset Management	EUR	13.0	100.0
UBS Fund Management (Switzerland) AG	Basel, Switzerland	Asset Management	CHF	1.0	100.0
UBS (Monaco) S.A.	Monte Carlo, Monaco	Global Wealth Management	EUR	49.2	100.0
UBS Realty Investors LLC	Boston, Massachusetts, USA	Asset Management	USD	9.0	100.0
UBS Securities (Thailand) Ltd	Bangkok, Thailand	Investment Bank	THB	500.0	100.0
UBS Securities Australia Ltd	Sydney, Australia	Investment Bank	AUD	0.3[1]	100.0
UBS Securities Japan Co., Ltd.	Tokyo, Japan	Investment Bank	JPY	32,100.0	100.0
UBS Securities Pte. Ltd.	Singapore, Singapore	Investment Bank	SGD	420.4	100.0

1 Includes a nominal amount relating to redeemable preference shares.

Consolidated structured entities

UBS AG consolidates a structured entity (SE) if it has power over the relevant activities of the entity, exposure to variable returns and the ability to use its power to affect its returns. Consolidated SEs include certain investment funds, securitization vehicles and client investment vehicles. UBS AG has no individually significant subsidiaries that are SEs.

Investment fund SEs are generally consolidated when UBS AG's aggregate exposure combined with its decision-making rights indicate the ability to use such power in a principal capacity. Typically, UBS AG will have decision-making rights as fund manager, earning a management fee, and will provide seed capital at the inception of the fund or hold a significant percentage of the fund units. Where other investors do not have the substantive ability to remove UBS as decision maker, UBS AG is deemed to have control and therefore consolidates the fund.

Securitization SEs are generally consolidated when UBS AG holds a significant percentage of the asset-backed securities issued by the SE and has the power to remove without cause the servicer of the asset portfolio.

Client investment SEs are generally consolidated when UBS AG has a substantive liquidation right over the SE or a decision right over the assets held by the SE and has exposure to variable returns through derivatives traded with the SE or holding notes issued by the SE.

In 2019 and 2018, UBS AG did not enter into any contractual obligation that could require UBS AG to provide financial support to consolidated SEs. In addition, UBS AG did not provide support, financial or otherwise, to a consolidated SE when UBS AG was not contractually obligated to do so, nor has UBS AG an intention to do so in the future. Further, UBS AG did not provide support, financial or otherwise, to a previously unconsolidated SE that resulted in UBS AG controlling the SE during the reporting period.

b) Interests in associates and joint ventures

As of 31 December 2019 and 2018, no associate or joint venture was individually material to UBS AG. In addition, there were no significant restrictions on the ability of associates or joint ventures to transfer funds to UBS AG or its subsidiaries in the form of cash dividends or to repay loans or advances made. There were no quoted market prices for any associates or joint ventures of UBS AG.

Investments in associates and joint ventures

USD million	2019	2018
Carrying amount at the beginning of the year	1,099	1,045
Additions	0	3
Disposals[1]	0	(431)
Reclassifications[2]		(21)
Share of comprehensive income	25	529
of which: share of net profit[3]	*46*	*529*
of which: share of other comprehensive income[4]	*(21)*	*1*
Dividends received	(83)	(42)
Impairment	(1)	
Foreign currency translation	11	16
Carrying amount at the end of the year	1,051	1,099
of which: associates	*1,010*	*1,066*
of which: SIX Group AG, Zurich[5]	*887*	*952*
of which: other associates	*123*	*114*
of which: joint ventures	*41*	*33*

1 In December 2018, UBS AG increased its shareholding in UBS Securities China from 24.99% to 51%, acquiring control of the entity in accordance with IFRS 10, Consolidated Financial Statements. Upon acquisition of control, UBS AG derecognized its former investment in associate. Refer to Note 32 for more information. 2 Reflects reclassifications to Properties and other non-current assets held for sale. 3 For 2019, consists of USD 28 million from associates and USD 18 million from joint ventures. For 2018, consists of USD 511 million from associates, of which USD 460 million reflected a valuation gain on the equity ownership in SIX related to the sale of SIX Payment Services to Worldline, and USD 18 million from joint ventures. 4 For 2019, consists of negative USD 22 million from associates and USD 1 million from joint ventures. For 2018, the total of USD 1 million is from associates. 5 In 2019, UBS AG's equity interest amounts to 17.31%. UBS AG is represented on the Board of Directors.

Note 31 Interests in subsidiaries and other entities (continued)

c) Interests in unconsolidated structured entities

During 2019, UBS AG sponsored the creation of various SEs and interacted with a number of non-sponsored SEs, including securitization vehicles, client vehicles as well as certain investment funds, that UBS did not consolidate as of 31 December 2019 because it did not control these entities.

The table below presents UBS AG's interests in and maximum exposure to loss from unconsolidated SEs as well as the total assets held by the SEs in which UBS had an interest as of year-end, except for investment funds sponsored by third parties, for which the carrying amount of UBS's interest as of year-end has been disclosed.

Interests in unconsolidated structured entities

	31.12.19				
USD million, except where indicated	Securitization vehicles	Client vehicles	Investment funds	Total	Maximum exposure to loss[1]
Financial assets at fair value held for trading	462	130	5,874	6,466	6,466
Derivative financial instruments	9	9	36	55	53
Loans and advances to customers			174	174	174
Financial assets at fair value not held for trading	81	8[2]	62	151	902
Financial assets measured at fair value through other comprehensive income		3,955		3,955	3,955
Other financial assets measured at amortized cost	335	16[2]		351	1,372
Total assets	888[3]	4,118	6,147	11,152	
Derivative financial instruments	2[4]	225	324	552	1
Total liabilities	2	225	324	552	
Assets held by the unconsolidated structured entities in which UBS had an interest (USD billion)	55[5]	73[6]	413[7]		

	31.12.18				
USD million, except where indicated	Securitization vehicles	Client vehicles	Investment funds	Total	Maximum exposure to loss[1]
Financial assets at fair value held for trading	420	174	7,297	7,890	7,890
Derivative financial instruments	8	35	1	44	44
Loans and advances to customers			179	179	179
Financial assets at fair value not held for trading	87	48[2]	85	220	1,796
Financial assets measured at fair value through other comprehensive income		3,931		3,931	3,931
Other financial assets measured at amortized cost	312	25[2]		337	1,423
Total assets	826[3]	4,212	7,562	12,600	
Derivative financial instruments	3[4]	123	32	158	3
Total liabilities	3	123	32	158	
Assets held by the unconsolidated structured entities in which UBS had an interest (USD billion)	63[5]	69[6]	385[7]		

1 For the purpose of this disclosure, maximum exposure to loss amounts do not consider the risk-reducing effects of collateral or other credit enhancements. 2 Represents the carrying amount of loan commitments. The maximum exposure to loss for these instruments is equal to the notional amount. 3 As of 31 December 2019, USD 0.6 billion of the USD 0.9 billion (31 December 2018: USD 0.6 billion of the USD 0.8 billion) was held in Corporate Center – Non-core and Legacy Portfolio. 4 Comprised of credit default swap liabilities and other swap liabilities. The maximum exposure to loss for credit default swap liabilities is equal to the sum of the negative carrying amount and the notional amount. For other swap liabilities, no maximum exposure to loss is reported. 5 Represents the principal amount outstanding. 6 Represents the market value of total assets. 7 Represents the net asset value of the investment funds sponsored by UBS and the carrying amount of UBS's interests in the investment funds not sponsored by UBS.

UBS AG retains or purchases interests in unconsolidated SEs in the form of direct investments, financing, guarantees, letters of credit, derivatives and through management contracts.

UBS AG's maximum exposure to loss is generally equal to the carrying amount of UBS AG's interest in the SE, with the exception of guarantees, letters of credit and credit derivatives, for which the contract's notional amount, adjusted for losses already incurred, represents the maximum loss that UBS AG is exposed to. In addition, the current fair value of derivative swap instruments with a positive replacement value only, such as total return swaps, is presented as the maximum exposure to loss. Risk exposure for these swap instruments could change over time with market movements.

The maximum exposure to loss disclosed in the table on the previous page does not reflect UBS AG's risk management activities, including effects from financial instruments that may be used to economically hedge the risks inherent in the unconsolidated SE or the risk-reducing effects of collateral or other credit enhancements.

In 2019 and 2018, UBS AG did not provide support, financial or otherwise, to an unconsolidated SE when not contractually obligated to do so, nor has UBS AG an intention to do so in the future.

In 2019 and 2018, income and expenses from interests in unconsolidated SEs primarily resulted from mark-to-market movements recognized in *Other net income from financial instruments measured at fair value through profit of loss*, which have generally been hedged with other financial instruments, as well as fee and commission income received from UBS-sponsored funds.

Interests in securitization vehicles

As of 31 December 2019 and 31 December 2018, UBS AG held interests, both retained and acquired, in various securitization vehicles, a majority of which are held within Corporate Center – Non-core and Legacy Portfolio. The Investment Bank also retained interests in securitization vehicles related to financing, underwriting, secondary market and derivative trading activities. In some cases UBS AG may be required to absorb losses from an unconsolidated SE before other parties because UBS AG's interest is subordinated to others in the ownership structure.

The numbers outlined in the table on the previous page may differ from the securitization positions presented in the 31 December 2019 Pillar 3 report under "Pillar 3 disclosures" at *www.ubs.com/investors,* for the following reasons: (i) exclusion of synthetic securitizations transacted with entities that are not SEs and transactions in which UBS AG did not have an interest because it did not absorb any risk; (ii) a different measurement basis in certain cases (e.g., IFRS carrying amount within the table above compared with net exposure amount at default for Pillar 3 disclosures); and (iii) different classification of vehicles viewed as sponsored by UBS AG versus sponsored by third parties.

→ **Refer to Note 1a item 1 for more information about UBS AG's accounting policies regarding consolidation and sponsorship of securitization vehicles and other structured entities**

→ **Refer to the 31 December 2019 Pillar 3 report under "Pillar 3 disclosures" at *www.ubs.com/investors* for more information**

Interests in client vehicles

As of 31 December 2019 and 31 December 2018, UBS AG retained interests in client vehicles sponsored by UBS AG and third parties that relate to financing and derivative activities, and to hedge structured product offerings. Included within these investments are securities guaranteed by US government agencies.

Interests in investment funds

UBS AG holds interests in a number of investment funds, primarily resulting from seed investments or in order to hedge structured product offerings. In addition to the interests disclosed in the table on the previous page, UBS AG manages the assets of various pooled investment funds and receives fees that are based, in whole or part, on the net asset value of the fund and/or the performance of the fund. The specific fee structure is determined on the basis of various market factors and considers the nature of the fund and the jurisdiction of incorporation, as well as fee schedules negotiated with clients. These fee contracts represent an interest in the fund as they align UBS AG's exposure with investors, providing a variable return that is based on the performance of the entity. Depending on the structure of the fund, these fees may be collected directly from the fund assets and/or from the investors. Any amounts due are collected on a regular basis and are generally backed by the assets of the fund. UBS AG did not have any material exposure to loss from these interests as of 31 December 2019 or as of 31 December 2018.

Note 31 Interests in subsidiaries and other entities (continued)

Sponsored unconsolidated structured entities in which UBS did not have an interest

For several sponsored SEs, no interest was held by UBS AG at year-end. However, during the respective reporting period UBS AG transferred assets, provided services and held instruments that did not qualify as an interest in these sponsored SEs, and accordingly earned income or incurred expenses from these entities. The table below presents the income earned and expenses incurred directly from these entities during the year as well as corresponding asset information. The table does not include income earned and expenses incurred from risk management activities, including income and expenses from financial instruments used to economically hedge instruments transacted with the unconsolidated SEs.

The majority of the fee income arose from investment funds that are sponsored and administrated by UBS AG, but managed by third parties. As UBS AG does not provide any active management services, UBS AG was not exposed to risk from the performance of these entities and was therefore deemed not to have an interest in them. In certain structures, the fees receivable may be collected directly from the investors and have therefore not been included in the table below.

UBS AG also recorded other net income from financial instruments measured at fair value through profit or loss from mark-to-market movements arising primarily from derivatives, such as interest rate and currency swaps as well as credit derivatives, through which UBS AG purchases protection, and financial liabilities designated at fair value, which do not qualify as interests because UBS AG does not absorb variability from the performance of the entity. Total income reported does not reflect economic hedges or other mitigating effects from UBS AG's risk management activities.

During 2019, UBS AG and third parties transferred assets of USD 1 billion and USD 1 billion, respectively, into sponsored securitization vehicles created in the year (2018: USD 1 billion and USD 1 billion, respectively). UBS AG and third parties also transferred assets of USD 0 billion and USD 1 billion, respectively, into sponsored client vehicles created in the year (2018: USD 2 billion and USD 0 billion, respectively). For sponsored investment funds, transfers arose during the period as investors invested and redeemed positions, thereby changing the overall size of the funds, which, when combined with market movements, resulted in a total closing net asset value of USD 42 billion (31 December 2018: USD 18 billion).

Sponsored unconsolidated structured entities in which UBS did not have an interest at year-end

	As of or for the year ended			
	31.12.19			
USD million, except where indicated	Securitization vehicles	Client vehicles	Investment funds	Total
Net interest income	(1)	0	(1)	(2)
Net fee and commission income		13	50	63
Other net income from financial instruments measured at fair value through profit or loss	19	(18)	9	11
Total income	19	(5)	58	72
Asset information (USD billion)	2[1]	1[2]	42[3]	

	As of or for the year ended			
	31.12.18			
USD million, except where indicated	Securitization vehicles	Client vehicles	Investment funds	Total
Net interest income	0	(6)	1	(5)
Net fee and commission income		16	39	54
Other net income from financial instruments measured at fair value through profit or loss	0	8	20	29
Total income	1	18	60	78
Asset information (USD billion)	2[1]	2[2]	18[3]	

1 Represents the amount of assets transferred to the respective securitization vehicles. 2 Represents the amount of assets transferred to the respective client vehicles. 3 Represents the total net asset value of the respective investment funds.

Note 32 Changes in organization and acquisitions and disposals of subsidiaries and businesses

Changes in Group structure and organization

UK business transfer and cross-border merger of UBS Limited into UBS Europe SE

In the fourth quarter of 2018, clients and other counterparties of UBS Limited who can be serviced by UBS AG, London Branch were generally migrated to UBS AG, London Branch. Transactions affecting the transferred businesses that occurred on or after the transfer date were recorded in UBS AG, London Branch.

On 1 March 2019, UBS AG completed its combined UK business transfer and cross-border merger of UBS Limited into UBS Europe SE, its Germany-headquartered European subsidiary.

UBS Asset Management AG

In 2016, UBS AG transferred the majority of the operating subsidiaries of Asset Management to UBS Asset Management AG. Effective 1 April 2019, as part of UBS's efforts to improve the resolvability of the Group, the portion of the Asset Management business in Switzerland conducted by UBS AG was transferred from UBS AG to its indirect subsidiary, UBS Asset Management Switzerland AG. With this transfer, UBS AG has completed the transfer of its Swiss Asset Management business and all Asset Management subsidiaries outside the US into a separate Asset Management sub-group structure.

UBS Group Funding (Switzerland) AG

UBS Group Funding (Switzerland) AG was established in 2016 as a wholly owned direct subsidiary of UBS Group AG, to issue loss-absorbing additional tier 1 (AT1) capital instruments and total loss-absorbing capacity (TLAC)-eligible senior unsecured debt, which were guaranteed by UBS Group AG. In line with regulatory requirements in Switzerland and following a change in Swiss tax law as of 1 January 2019 that applies to holding companies of systemically relevant banks issuing loss-absorbing AT1 or TLAC-eligible senior unsecured debt instruments, such existing instruments were migrated to UBS Group AG from UBS Group Funding (Switzerland) AG in October 2019.

UBS Business Solutions AG

In 2015, UBS Business Solutions AG was established as a direct subsidiary of UBS Group AG to act as the Group service company and UBS AG transferred the ownership of the majority of its existing service subsidiaries outside the US to UBS Business Solutions AG. In 2017, shared services functions in Switzerland and the UK were transferred from UBS AG to UBS Business Solutions AG and UBS AG also completed the transfer of the shared services employees in the US to its US service company, UBS Business Solutions US LLC, a wholly owned subsidiary of UBS Americas Holding LLC.

Acquisitions

Increase of stake in and consolidation of UBS Securities China

In December 2018, UBS AG increased its shareholding in UBS Securities China from 24.99% to 51%, acquiring control of the entity in accordance with IFRS 10, *Consolidated Financial Statements*. Upon acquisition of control, UBS AG remeasured its former 24.99% holding at fair value, resulting in a pre-tax loss of USD 270 million, recognized in *Other income*. In addition, a net foreign currency translation gain of USD 46 million was recognized upon derecognition of the former investment in associate, also in *Other income*.

The cost of acquisition of the additional 26.01% stake was USD 125 million. Upon consolidation, UBS AG recognized USD 102 million of goodwill and USD 278 million of other net assets. In addition, a non-controlling interest of USD 136 million has been recognized.

Sales and disposals of subsidiaries and businesses

In 2019, 2018 and 2017, no significant subsidiaries were removed from the scope of consolidation as a result of sales or disposals.

In the third quarter of 2018, UBS AG completed the sale of Widder Hotel, resulting in a pre-tax gain on sale of subsidiaries and businesses of USD 25 million and a pre-tax gain on sale of real estate of USD 31 million.

In 2017, UBS AG completed the sale of Asset Management's fund administration servicing units in Luxembourg and Switzerland to Northern Trust, resulting in a pre-tax gain on sale of USD 153 million.

Note 32 Changes in organization and acquisitions and disposals of subsidiaries and businesses (continued)

Strategic partnership with Sumitomo Mitsui Trust Holdings

In June 2019, UBS AG entered into a strategic wealth management partnership in Japan with Sumitomo Mitsui Trust Holdings, Inc. (SuMi Trust Holdings). In January 2020, the first phase was launched, with operations commencing in the newly established joint venture, UBS SuMi TRUST Wealth Advisory, which is owned equally by UBS Securities Japan and SuMi Trust Holdings and is accounted for as an investment in a joint venture by UBS AG. UBS AG and SuMi Trust Holdings have also started offering each other's products and services to their respective current clients.

The second phase of the partnership is expected to launch in 2021 with the establishment of a new entity which will be 51% owned and controlled by UBS AG, requiring UBS AG to consolidate this entity. UBS AG does not expect a material effect on shareholders' equity upon closing.

Strategic partnership with Banco do Brasil

In November 2019, UBS AG signed a binding agreement with Banco do Brasil to establish a strategic investment banking partnership that will provide investment banking services and institutional securities brokerage in Brazil and selected countries in South America. The partnership is expected to be established through a combination of assets from both stakeholders. UBS AG intends to contribute its operational investment banking platform in Brazil and Argentina, as well as its institutional brokerage business in Brazil. Banco do Brasil intends to contribute the exclusive access rights to its corporate clients. UBS AG will hold a controlling interest of 50.01% in the entity, requiring UBS AG to consolidate this entity. Closing of the transaction is subject to regulatory approvals and is currently expected in the first half of 2020. UBS AG does not expect a material effect on shareholders' equity upon closing.

Sale of majority stake in UBS Fondcenter

In January 2020, UBS AG has agreed to sell a majority stake in UBS Fondcenter to Clearstream, Deutsche Börse Group's post-trade services provider. UBS AG will retain a minority (48.8%) shareholding in the business and will enter into an agreement under which it may sell its remaining shareholding to Clearstream at a later date. As part of the transaction, UBS AG and Clearstream will enter into long-term commercial cooperation arrangements for the provision of services to Global Wealth Management, Asset Management and the Corporate & Institutional Clients unit of Personal & Corporate Banking. The transaction is subject to customary closing conditions and is expected to close in the second half of 2020. UBS AG expects to record a post-tax gain of around USD 600 million upon closing of the transaction. UBS AG will deconsolidate UBS Fondcenter and account for its minority interest as an investment in an associate.

Note 33 Finance lease receivables

UBS AG acts as a lessor and leases a variety of assets to third parties under finance leases, such as commercial vehicles, production lines, medical equipment, construction equipment and aircraft. At the end of the respective lease term, assets may be sold to third parties or further leased. Lessees may participate in any sales proceeds achieved. Lease payments cover the cost of the assets less their residual value as well as financing costs.

As of 31 December 2019, unguaranteed residual values of USD 246 million (31 December 2018: USD 156 million) had been accrued and the ECL stage 3 allowance for uncollectible minimum lease payments receivable was USD 6 million (31 December 2018: USD 7 million). No contingent rents were received in 2019. Amounts in the table below are disclosed on a gross basis. The finance lease receivables in Note 17a of USD 1,444 million are presented net of expected credit loss allowances.

Lease receivables

USD million	31.12.19		
	Total minimum lease payments	Unearned finance income	Present value
2020	448	31	417
2021–2024	874	52	822
Thereafter	221	6	215
Total	1,544	89	1,455

USD million	31.12.18		
	Total minimum lease payments	Unearned finance income	Present value
2019	359	22	337
2020–2023	703	35	669
Thereafter	103	2	102
Total	1,166	58	1,107

Note 34 Guarantees, commitments and forward starting transactions

The table below shows the maximum irrevocable amount of guarantees, commitments and forward starting transactions.

	Gross		Total gross	Sub-participations	Net
As of 31.12.19, USD million	Measured at fair value	Not measured at fair value			
Total guarantees	986	18,142	19,128	(2,646)	16,482
Loan commitments	6,308	27,547	33,856	(787)	33,069
Forward starting transactions[1]					
Reverse repurchase agreements	20,284	1,657	21,941		
Repurchase agreements	7,740	408	8,148		
As of 31.12.18, USD million					
Total guarantees	1,639	18,146	19,785	(2,803)	16,982
Loan commitments	3,535	31,212	34,747	(647)	34,099
Forward starting transactions[1]					
Reverse repurchase agreements	8,117	925	9,042		
Securities borrowing agreements		12	12		
Repurchase agreements	7,926	400	8,326		

1 Cash to be paid in the future by either UBS AG or the counterparty.

Note 35 Related parties

UBS AG defines related parties as associates (entities that are significantly influenced by UBS), joint ventures (entities in which UBS shares control with another party), post-employment benefit plans for UBS AG employees, key management personnel, close family members of key management personnel and entities that are, directly or indirectly, controlled or jointly controlled by key management personnel or their close family members. Key management personnel is defined as members of the Board of Directors (BoD) and Executive Board (EB).

a) Remuneration of key management personnel

The Chairman of the BoD has a specific management employment contract and receives pension benefits upon retirement. Total remuneration of the Chairman of the Board of Directors and all EB members is included in the table below.

Remuneration of key management personnel

USD million, except where indicated	31.12.19	31.12.18	31.12.17
Base salaries and other cash payments[1]	30	25	24
Incentive awards – cash[2]	13	14	13
Annual incentive award under DCCP	20	21	20
Employer’s contributions to retirement benefit plans	2	3	3
Benefits in kind, fringe benefits (at market value)	1	2	2
Equity-based compensation[3]	34	38	36
Total	101	102	98
Total (CHF million)[4]	101	100	98

1 May include role-based allowances in line with market practice and regulatory requirements. 2 The cash portion may also include blocked shares in line with regulatory requirements. 3 Expenses for shares granted are calculated at grant date of the respective award and allocated over the vesting period of generally five years. Refer to Note 30 for more information. For EB members, equity-based compensation for 2019 was entirely comprised of LTIP awards and equity-based compensation for 2018 and 2017 was entirely comprised of EOP awards. For the Chairman of the BoD, the equity-based compensation for 2019, 2018 and 2017 was entirely comprised of UBS shares. 4 Swiss franc amounts disclosed represent the respective US dollar amounts translated at the applicable performance award currency exchange rates (2019: USD / CHF 0.99; 2018: USD / CHF 0.98; 2017: USD / CHF 1.00)

The independent members of the BoD do not have employment or service contracts with UBS AG, and thus are not entitled to benefits upon termination of their service on the BoD. Payments to these individuals for their services as external board members amounted to USD 7.3 million (CHF 7.3 million) in 2019, USD 7.6 million (CHF 7.4 million) in 2018 and USD 7.1 million (CHF 7.1 million) in 2017.

b) Equity holdings of key management personnel

Equity holdings of key management personnel

	31.12.19	31.12.18
Number of stock options from equity participation plans held by non-independent members of the BoD and the EB members[1]	0	0
Number of shares held by members of the BoD, EB and parties closely linked to them[2]	6,609,848	5,676,989

1 Refer to Note 30 for more information. 2 Excludes shares granted under variable compensation plans with forfeiture provisions.

Of the share totals above, no shares were held by close family members of key management personnel on 31 December 2019 and 95,597 shares were held by close family members of key management personnel on 31 December 2018. No shares were held by entities that are directly or indirectly controlled or jointly controlled by key management personnel or their close family members on 31 December 2019 and 31 December 2018. Refer to Note 30 for more information. As of 31 December 2019, no member of the BoD or EB was the beneficial owner of more than 1% of UBS Group AG’s shares.

Note 35 Related parties (continued)

c) Loans, advances and mortgages to key management personnel

The non-independent members of the BoD and EB members are granted loans, fixed advances and mortgages in the ordinary course of business on substantially the same terms and conditions that are available to other employees, including interest rates and collateral, and neither involve more than the normal risk of collectibility nor contain any other unfavorable features for the firm. Independent BoD members are granted loans and mortgages in the ordinary course of business at general market conditions.

Movements in the loan, advances and mortgage balances are as follows.

Loans, advances and mortgages to key management personnel[1]

USD million, except where indicated	2019	2018
Balance at the beginning of the year	28	34
Additions	6	15
Reductions	(11)	(22)
Balance at the end of the year[2]	23	28
Balance at the end of the year (CHF million)[2, 3]	22	27

1 All loans are secured loans. 2 No unused uncommitted credit facilities as of 31 December 2019. Excludes unused uncommitted credit facilities for one EB member of USD 3,000,000 (CHF 2,949,690) as of 31 December 2018. 3 Swiss franc amounts disclosed represent the respective US dollar amounts translated at the relevant year-end closing exchange rate.

d) Other related-party transactions with entities controlled by key management personnel

In 2019 and 2018, UBS AG did not enter into transactions with entities that are directly or indirectly controlled or jointly controlled by UBS AG's key management personnel or their close family members and as of 31 December 2019, 31 December 2018 and 31 December 2017, there were no outstanding balances related to such transactions. Furthermore, in 2019 and 2018, entities controlled by key management personnel did not sell any goods or provide any services to UBS AG, and therefore did not receive any fees from UBS AG. UBS AG also did not provide services to such entities in 2019 and 2018, and therefore also received no fees.

Note 35 Related parties (continued)

e) Transactions with associates and joint ventures

Loans to and outstanding receivables from associates and joint ventures

USD million	2019	2018
Carrying amount at the beginning of the year	829	565
Additions	145	276
Reductions	(5)	(13)
Foreign currency translation	13	0
Carrying amount at the end of the year	982	829
of which: unsecured loans	*971*	*818*

Other transactions with associates and joint ventures

	As of or for the year ended	
USD million	31.12.19	31.12.18
Payments to associates and joint ventures for goods and services received	124	177
Fees received for services provided to associates and joint ventures	1	4
Liabilities to associates and joint ventures	101	
Commitments and contingent liabilities to associates and joint ventures	1,598	4

→ **Refer to Note 31 for an overview of investments in associates and joint ventures**

f) Receivables and payables from / to UBS Group AG and other subsidiaries of UBS Group AG

USD million	31.12.19	31.12.18
Receivables		
Loans and advances to customers	1,255	1,161
Financial assets at fair value held for trading	180	139
Other financial assets measured at amortized cost	60	105
Payables		
Customer deposits	2,314	2,152
Funding from UBS Group AG and its subsidiaries	47,866	41,202
Other financial liabilities measured at amortized cost	1,829	1,711
Other financial liabilities designated at fair value[1]	217	

1 Represents funding recognized from UBS Group AG and its subsidiaries that is designated at fair value. Refer to Note 22b for more information.

Note 36 Invested assets and net new money

Invested assets

Invested assets include all client assets managed by or deposited with UBS AG for investment purposes. Invested assets include managed fund assets, managed institutional assets, discretionary and advisory wealth management portfolios, fiduciary deposits, time deposits, savings accounts and wealth management securities or brokerage accounts. All assets held for purely transactional purposes and custody-only assets, including corporate client assets held for cash management and transactional purposes, are excluded from invested assets as UBS AG only administers the assets and does not offer advice on how the assets should be invested. Also excluded are non-bankable assets (e.g., art collections) and deposits from third-party banks for funding or trading purposes.

Discretionary assets are defined as client assets that UBS AG decides how to invest. Other invested assets are those where the client ultimately decides how the assets are invested. When a single product is created in one business division and sold in another, it is counted in both the business division that manages the investment and the one that distributes it. This results in double counting within UBS AG total invested assets, as both business divisions are independently providing a service to their respective clients, and both add value and generate revenue.

Net new money

Net new money in a reporting period is the amount of invested assets that are entrusted to UBS AG by new and existing clients, less those withdrawn by existing clients and clients who terminated their relationship with UBS AG.

Net new money is calculated using the direct method, under which inflows and outflows to / from invested assets are determined at the client level based on transactions. Interest and dividend income from invested assets are not counted as net new money inflows. Market and currency movements as well as fees, commissions and interest on loans charged are excluded from net new money, as are the effects resulting from any acquisition or divestment of a UBS AG subsidiary or business. Reclassifications between invested assets and custody-only assets as a result of a change in the service level delivered are generally treated as net new money flows. However, where the change in service level directly results from an externally imposed regulation or from a strategic decision by UBS AG to exit a market or specific service offering, the one-time net effect is reported as *Other effects*.

The Investment Bank does not track invested assets and net new money. However, when a client is transferred from the Investment Bank to another business division, this may produce net new money even though client assets were already with UBS AG. There were no such transfers between the Investment Bank and other business divisions in 2019 and 2018.

Invested assets and net new money

	As of or for the year ended	
USD billion	31.12.19	31.12.18
Fund assets managed by UBS	358	342
Discretionary assets	1,209	999
Other invested assets	2,040	1,760
Total invested assets[1]	3,607	3,101
of which: double counts	*248*	*213*
Net new money[1]	51	59

1 Includes double counts.

Development of invested assets

USD billion	2019	2018
Total invested assets at the beginning of the year[1]	3,101	3,262
Net new money	51	59
Market movements[2]	444	(180)
Foreign currency translation	6	(35)
Other effects	5	(5)
of which: acquisitions / (divestments)	*(1)*	*7*
Total invested assets at the end of the year[1]	3,607	3,101

1 Includes double counts. 2 Includes interest and dividend income.

Note 37 Currency translation rates

The following table shows the rates of the main currencies used to translate the financial information of UBS AG's operations with a functional currency other than the US dollar into US dollars.

	Closing exchange rate		Average rate[1]		
	As of		For the year ended		
	31.12.19	31.12.18	31.12.19	31.12.18	31.12.17
1 CHF	1.03	1.02	1.01	1.02	1.02
1 EUR	1.12	1.15	1.12	1.18	1.14
1 GBP	1.32	1.28	1.28	1.33	1.30
100 JPY	0.92	0.91	0.92	0.91	0.89

1 Monthly income statement items of operations with a functional currency other than the US dollar are translated with month-end rates into US dollars. Disclosed average rates for a year represent an average of 12 month-end rates, weighted according to the income and expense volumes of all operations of UBS AG with the same functional currency for each month. Weighted average rates for individual business divisions may deviate from the weighted average rates for UBS AG.

Note 38 Main differences between IFRS and Swiss GAAP

The consolidated financial statements of UBS AG are prepared in accordance with International Financial Reporting Standards (IFRS). The Swiss Financial Market Supervisory Authority (FINMA) requires financial groups that present their financial statements under IFRS to provide a narrative explanation of the main differences between IFRS and Swiss GAAP (FINMA Circular 2015 / 1 and the Banking Ordinance). Included in this Note are the significant differences in the recognition and measurement between IFRS and the provisions of the Banking Ordinance and the guidelines of FINMA governing true and fair view financial statement reporting pursuant to article 25 through article 42 of the Banking Ordinance.

1. Consolidation

Under IFRS, all entities that are controlled by the holding entity are consolidated.

Under Swiss GAAP, controlled entities that are deemed immaterial to UBS AG or that are held temporarily only are exempt from consolidation, but instead are recorded as participations accounted for under the equity method of accounting or as financial investments measured at the lower of cost or market value.

2. Classification and measurement of financial assets

Under IFRS, debt instruments are measured at amortized cost, fair value through other comprehensive income (FVOCI) or fair value through profit or loss (FVTPL) , depending on the nature of the business model within which the asset is held and the characteristics of the contractual cash flows of the asset. Equity instruments are accounted for at FVTPL by UBS AG.

Under Swiss GAAP, trading assets and derivatives are measured at FVTPL in line with IFRS. However, non-trading debt instruments are generally measured at amortized cost, even when the assets are managed on a fair value basis. In addition, the measurement of financial assets in the form of securities depends on the nature of the asset: debt instruments that are not held to maturity, i.e. instruments which are available for sale, as well as equity instruments with no permanent holding intent, are classified as *Financial investments* and measured at the lower of (amortized) cost or market value. Market value adjustments up to the original cost amount and realized gains or losses upon disposal of the investment are recorded in the income statement as *Other income from ordinary activities.* Equity instruments with a permanent holding intent are classified as participations in *Non-consolidated investments in subsidiaries and other participations* and are measured at cost less impairment.

Impairment losses are recorded in the income statement as *Impairment of investments in non-consolidated subsidiaries and other participations.* Reversals of impairments up to the original cost amount as well as realized gains or losses upon disposal of the investment are recorded as *Extraordinary income / Extraordinary expenses* in the income statement.

3. Fair value option applied to financial liabilities

Under IFRS, UBS AG applies the fair value option to certain financial liabilities not held for trading. Instruments for which the fair value option is applied are accounted for at FVTPL. The amount of change in the fair value that is attributable to changes in UBS AG's own credit is presented in *Other comprehensive income* directly within *Retained earnings*. The fair value option is applied primarily to issued structured debt instruments, certain non-structured debt instruments, certain payables under repurchase agreements and cash collateral on securities lending agreements, amounts due under unit-linked investment contracts, and brokerage payables.

Under Swiss GAAP, the fair value option can only be applied to structured debt instruments that consist of a debt host contract and one or more embedded derivatives that do not relate to own equity. Furthermore, unrealized changes in fair value attributable to changes in UBS AG's own credit are not recognized, whereas realized own credit is recognized in *Net trading income*.

4. Allowances and provisions for credit losses

Under IFRS, allowances and provisions for credit losses are estimated based on an expected credit loss model. Expected credit losses (ECL) are recognized for financial assets measured at amortized cost, financial assets measured at FVOCI, fee and lease receivables, financial guarantees, loan commitments and certain other credit facilities. Maximum 12-month ECL are recognized from initial recognition of instruments in stage 1. Lifetime ECL are recognized for instruments in stage 2 if a significant increase in credit risk is observed subsequent to the instrument's initial recognition. Lifetime ECL are also recognized for credit-impaired financial instruments, referred to as instruments in stage 3. Determination of whether an instrument is credit-impaired is based on the occurrence of one or more loss events.

Note 38 Main differences between IFRS and Swiss GAAP (continued)

Under Swiss GAAP, a claim is impaired and an allowance or provision for credit losses is recognized when objective evidence demonstrates that a loss event has occurred after the initial recognition and that the loss event has an effect on future cash flows that can be reliably estimated (incurred loss approach). UBS AG considers a claim to be impaired if it will be unable to collect all amounts due on it based on the original contractual terms as a result of credit deterioration of the issuer or counterparty. Impairment under the incurred loss approach is in line with ECL for credit-impaired claims in stage 3 under IFRS. A claim can be a loan or receivable or other debt instrument held to maturity measured at amortized cost, a debt instrument available for sale measured at the lower of amortized cost or market value, or a commitment, such as a letter of credit, a guarantee or a similar instrument.

An allowance for credit losses is reported as a decrease in the carrying amount of a financial asset. For an off-balance sheet item, such as a commitment, a provision for credit losses is reported in *Provisions*. Changes to allowances and provisions for credit losses are recognized in *Credit loss (expense) / recovery*.

5. Hedge accounting

Under IFRS, when cash flow hedge accounting is applied, the fair value gain or loss on the effective portion of the derivative designated as a cash flow hedge is recognized in equity. When fair value hedge accounting is applied, the fair value gains or losses of the derivative and the hedged item are recognized in the income statement.

Under Swiss GAAP, the effective portion of the fair value change of the derivative instrument designated as a cash flow or as a fair value hedge is deferred on the balance sheet as *Other assets* or *Other liabilities*. The carrying amount of the hedged item designated in fair value hedges is not adjusted for fair value changes attributable to the hedged risk.

6. Goodwill and intangible assets

Under IFRS, goodwill acquired in a business combination is not amortized but tested annually for impairment. Intangible assets with an indefinite useful life are also not amortized but tested annually for impairment.

Under Swiss GAAP, goodwill and intangible assets with indefinite useful lives are amortized over a period not exceeding five years, unless a longer useful life, which may not exceed 10 years, can be justified. In addition, these assets are tested annually for impairment.

7. Pension and other post-employment benefit plans

Swiss GAAP permits the use of IFRS or Swiss accounting standards for pension and other post-employment benefit plans, with the election made on a plan-by-plan basis.

UBS AG has elected to apply IFRS (IAS 19) for the non-Swiss defined benefit plans and Swiss GAAP (FER 16) for the Swiss pension plan in its standalone financial statements. The requirements of Swiss GAAP are better aligned with the specific nature of Swiss pension plans, which are hybrid in that they combine elements of defined contribution and defined benefit plans, but are treated as defined benefit plans under IFRS. Key differences between Swiss GAAP and IFRS include the treatment of dynamic elements, such as future salary increases and future interest credits on retirement savings, which are not considered under the static method used in accordance with Swiss GAAP. Also, the discount rate used to determine the defined benefit obligation in accordance with IFRS is based on the yield of high-quality corporate bonds of the market in the respective pension plan country. The discount rate used in accordance with Swiss GAAP (i.e., the technical interest rate) is determined by the Pension Foundation Board based on the expected returns of the Board's investment strategy.

For defined benefit plans, IFRS requires the full defined benefit obligation net of the plan assets to be recorded on the balance sheet, with changes resulting from remeasurements recognized directly in equity. However, for non-Swiss defined benefit plans for which IFRS accounting is elected, changes due to remeasurements are recognized in the income statement of UBS AG standalone under Swiss GAAP.

Swiss GAAP requires that employer contributions to the pension fund are recognized as personnel expenses in the income statement. Furthermore, Swiss GAAP requires an assessment as to whether, based on the financial statements of the pension fund prepared in accordance with Swiss accounting standards (FER 26), an economic benefit to, or obligation of, the employer arises from the pension fund which is recognized in the balance sheet when conditions are met. Conditions for recording a pension asset or liability would be met if, for example, an employer contribution reserve is available or the employer is required to contribute to the reduction of a pension deficit (on an FER 26 basis).

8. Leasing

Under IFRS, a single lease accounting model applies that requires UBS AG to record a right-of-use (RoU) asset and a corresponding lease liability on the balance sheet when UBS AG is a lessee in a lease arrangement. The RoU asset and the lease liability are recognized when UBS AG acquires control of the physical use of the asset. The lease liability is measured based on the present value of the lease payments over the lease term, discounted using UBS AG's unsecured borrowing rate. The RoU asset is recorded at an amount equal to the lease liability but is adjusted for rent prepayments, initial direct costs, any costs to refurbish the leased asset and/or lease incentives received. The RoU asset is depreciated over the shorter of the lease term or the useful life of the underlying asset.

Under Swiss GAAP, leases that transfer substantially all the risks and rewards, but not necessarily legal title in the underlying assets, are classified as finance leases. All other leases are classified as operating leases. Whereas finance leases are recognized on the balance sheet and measured in line with IFRS, operating lease payments are recognized as *General and administrative expenses* on a straight-line basis over the lease term, which commences with control of the physical use of the asset. Lease incentives are treated as a reduction of rental expense and are recognized on a consistent basis over the lease term.

9. Netting of replacement values

Under IFRS, replacement values and related cash collateral are reported on a gross basis unless the restrictive IFRS netting requirements are met: i) existence of master netting agreements and related collateral arrangements that are unconditional and legally enforceable, both in the normal course of business and in the event of default, bankruptcy or insolvency of UBS AG and its counterparties; and ii) UBS AG's intention to either settle on a net basis or to realize the asset and settle the liability simultaneously.

Under Swiss GAAP, replacement values and related cash collateral are generally reported on a net basis, provided the master netting and the related collateral agreements are legally enforceable in the event of default, bankruptcy or insolvency of UBS AG's counterparties.

10. Negative interest

Under IFRS, negative interest income arising on a financial asset does not meet the definition of interest income and, therefore, negative interest on financial assets and negative interest on financial liabilities are presented within interest expense and interest income, respectively.

Under Swiss GAAP, negative interest on financial assets is presented within interest income and negative interest on financial liabilities is presented within interest expense.

11. Extraordinary income and expense

Certain non-recurring and non-operating income and expense items, such as realized gains or losses from the disposal of participations, fixed and intangible assets, as well as reversals of impairments of participations and fixed assets, are classified as extraordinary items under Swiss GAAP. This distinction is not available under IFRS. ▲

Note 39 Supplemental guarantor information required under SEC regulations

Joint liability of UBS Switzerland AG

In 2015, the Personal & Corporate Banking and Wealth Management businesses booked in Switzerland were transferred from UBS AG to UBS Switzerland AG through an asset transfer in accordance with the Swiss Merger Act. Under the terms of the asset transfer agreement, UBS Switzerland AG assumed joint liability for contractual obligations of UBS AG existing on the asset transfer date, including the full and unconditional guarantee of certain registered debt securities issued by UBS AG. To reflect this joint liability, UBS Switzerland AG is presented in a separate column as a subsidiary co-guarantor.

The joint liability of UBS Switzerland AG for contractual obligations of UBS AG decreased in 2019 by USD 9 billion to USD 17 billion as of 31 December 2019, mainly driven by contractual maturities and, to a lesser extent, early extinguishments of UBS AG liabilities which existed at the date of the asset transfer in the second quarter of 2015.

Supplemental guarantor consolidated income statement

USD million For the year ended 31 December 2019	UBS AG (standalone)[1]	UBS Switzerland AG (standalone)[1]	Other subsidiaries[2]	Elimination entries	UBS AG (consolidated)
Operating income[3]					
Interest income	8,966	4,104	5,380	(3,028)	15,421
Interest expense	(9,472)	(1,021)	(3,583)	3,070	(11,006)
Net interest income	(506)	3,083	1,796	42	4,415
Other net income from financial instruments measured at fair value through profit or loss	5,116	924	1,114	(322)	6,833
Credit loss (expense) / recovery	(51)	7	(33)	0	(78)
Fee and commission income	3,285	4,342	12,527	(997)	19,156
Fee and commission expense	(674)	(819)	(1,188)	986	(1,696)
Net fee and commission income	2,610	3,523	11,338	(11)	17,460
Other income	4,962	259	1,960	(6,504)	677
Total operating income	12,131	7,796	16,176	(6,795)	29,307
Operating expenses					
Personnel expenses	3,251	1,936	8,614	0	13,801
General and administrative expenses	3,467	3,181	4,565	(2,627)	8,586
Depreciation and impairment of property, equipment and software	861	221	602	(108)	1,576
Amortization and impairment of goodwill and intangible assets	94	0	170	(88)	175
Total operating expenses	7,672	5,338	13,951	(2,823)	24,138
Operating profit / (loss) before tax	4,458	2,458	2,225	(3,972)	5,169
Tax expense / (benefit)	176	514	530	(21)	1,198
Net profit / (loss)	4,283	1,944	1,695	(3,951)	3,971
Net profit / (loss) attributable to non-controlling interests	0	0	6	0	6
Net profit / (loss) attributable to shareholders	4,283	1,944	1,689	(3,951)	3,965

1 Amounts presented for UBS AG standalone and UBS Switzerland AG standalone represent IFRS standalone information. Refer to the UBS AG standalone and UBS Switzerland AG standalone financial statements under "Complementary financial information" at www.ubs.com/investors for information prepared in accordance with Swiss GAAP. 2 The column "Other subsidiaries" includes consolidated information for the significant sub-groups UBS Americas Holding LLC, UBS Europe SE and UBS Asset Management AG, as well as standalone information for other subsidiaries. 3 Effective 1 January 2019, UBS AG, UBS Switzerland AG and certain other subsidiaries refined the presentation of dividend income and expense, reclassifying dividends from Interest income (expense) to Other net income from financial instruments measured at fair value through profit or loss. Prior-year comparative information was restated accordingly. Refer to Note 1b for more information.

Note 39 Supplemental guarantor information required under SEC regulations (continued)

Supplemental guarantor consolidated statement of comprehensive income

USD million For the year ended 31 December 2019	UBS AG (standalone)[1]	UBS Switzerland AG (standalone)[1]	Other subsidiaries[2]	Elimination entries	UBS AG (consolidated)
Comprehensive income attributable to shareholders					
Net profit / (loss)	4,283	1,944	1,689	(3,951)	3,965
Other comprehensive income					
Other comprehensive income that may be reclassified to the income statement					
Foreign currency translation, net of tax	(12)	150	39	(85)	92
Financial assets measured at fair value through other comprehensive income, net of tax	0	0	117	0	117
Cash flow hedges, net of tax	870	140	147	(15)	1,143
Total other comprehensive income that may be reclassified to the income statement, net of tax	859	290	303	(100)	1,351
Other comprehensive income that will not be reclassified to the income statement					
Defined benefit plans, net of tax	(78)	(6)	(75)	(11)	(170)
Own credit on financial liabilities designated at fair value, net of tax	(392)				(392)
Total other comprehensive income that will not be reclassified to the income statement, net of tax	(470)	(6)	(75)	(11)	(562)
Total other comprehensive income	388	284	228	(111)	789
Total comprehensive income attributable to shareholders	4,671	2,228	1,917	(4,062)	4,754
Total comprehensive income attributable to non-controlling interests			2		2
Total comprehensive income	4,671	2,228	1,919	(4,062)	4,756

1 Amounts presented for UBS AG standalone and UBS Switzerland AG standalone represent IFRS standalone information. Refer to the UBS AG standalone and UBS Switzerland AG standalone financial statements under "Complementary financial information" at www.ubs.com/investors for information prepared in accordance with Swiss GAAP. 2 The column "Other subsidiaries" includes consolidated information for the significant sub-groups UBS Americas Holding LLC, UBS Europe SE and UBS Asset Management AG, as well as standalone information for other subsidiaries.

Note 39 Supplemental guarantor information required under SEC regulations (continued)

Supplemental guarantor consolidated balance sheet

USD million As of 31 December 2019	UBS AG (standalone)[1]	UBS Switzerland AG (standalone)[1]	Other subsidiaries[2]	Elimination entries	UBS AG (consolidated)
Assets					
Cash and balances at central banks	36,386	60,926	9,756		107,068
Loans and advances to banks	32,888	7,992	17,430	(45,931)	12,379
Receivables from securities financing transactions	56,946	12,536	42,534	(27,771)	84,245
Cash collateral receivables on derivative instruments	22,830	990	8,508	(9,038)	23,289
Loans and advances to customers	88,386	193,543	63,676	(17,612)	327,992
Other financial assets measured at amortized cost	5,723	8,168	11,448	(2,327)	23,012
Total financial assets measured at amortized cost	243,159	284,154	153,351	(102,679)	577,985
Financial assets at fair value held for trading	113,802	53	15,320	(1,479)	127,695
of which: assets pledged as collateral that may be sold or repledged by counterparties	*58,599*	*0*	*5,386*	*(22,701)*	*41,285*
Derivative financial instruments	118,708	4,251	29,782	(30,899)	121,843
Brokerage receivables	11,453		6,556	(1)	18,007
Financial assets at fair value not held for trading	49,525	6,701	41,908	(14,498)	83,636
Total financial assets measured at fair value through profit or loss	293,488	11,004	93,565	(46,877)	351,181
Financial assets measured at fair value through other comprehensive income	176		6,169		6,345
Investments in subsidiaries and associates	51,212	28	39	(50,227)	1,051
Property, equipment and software[3]	7,318	1,144	3,749	(385)	11,826
Goodwill and intangible assets	222		6,212	35	6,469
Deferred tax assets	618	0	8,895		9,513
Other non-financial assets	5,060	1,770	857	(140)	7,547
Total assets	601,252	298,101	272,837	(200,273)	971,916
Liabilities					
Amounts due to banks	55,738	28,240	35,773	(113,181)	6,570
Payables from securities financing transactions	21,326	565	13,583	(27,696)	7,778
Cash collateral payables on derivative instruments	30,571	98	9,773	(9,027)	31,416
Customer deposits	85,954	239,226	86,550	38,861	450,591
Funding from UBS Group AG and its subsidiaries[4]	47,866				47,866
Debt issued measured at amortized cost	54,317	8,583	5	(70)	62,835
Other financial liabilities measured at amortized cost[3]	5,345	2,666	5,204	(2,842)	10,373
Total financial liabilities measured at amortized cost	301,117	279,379	150,888	(113,954)	617,429
Financial liabilities at fair value held for trading	25,292	383	6,233	(1,317)	30,591
Derivative financial instruments	117,597	4,046	30,089	(30,852)	120,880
Brokerage payables designated at fair value	25,358		11,877	(3)	37,233
Debt issued designated at fair value	65,677		952	(38)	66,592
Other financial liabilities designated at fair value	8,571		31,031	(3,445)	36,157
Total financial liabilities measured at fair value through profit or loss	242,495	4,429	80,184	(35,655)	291,452
Provisions	1,101	196	1,641		2,938
Other non-financial liabilities	1,644	931	3,559	34	6,168
Total liabilities	546,357	284,936	236,271	(149,576)	917,988
Equity attributable to shareholders	54,895	13,165	36,391	(50,697)	53,754
Equity attributable to non-controlling interests			174		174
Total equity	54,895	13,165	36,566	(50,697)	53,928
Total liabilities and equity	601,252	298,101	272,837	(200,273)	971,916

1 Amounts presented for UBS AG standalone and UBS Switzerland AG standalone represent IFRS standalone information. Refer to the UBS AG standalone and UBS Switzerland AG standalone financial statements under "Complementary financial information" at www.ubs.com/investors for information prepared in accordance with Swiss GAAP. 2 The column "Other subsidiaries" includes consolidated information for the significant sub-groups UBS Americas Holding LLC, UBS Europe SE and UBS Asset Management AG, as well as standalone information for other subsidiaries. 3 Includes the effects of the adoption of IFRS 16, Leases, as of 1 January 2019. Refer to Note 1 for more information. 4 Represents funding from UBS Group AG to UBS AG.

Note 39 Supplemental guarantor information required under SEC regulations (continued)

Supplemental guarantor consolidated statement of cash flows

USD million For the year ended 31 December 2019	UBS AG[1]	UBS Switzerland AG[1]	Other subsidiaries[1]	UBS AG (consolidated)
Net cash flow from / (used in) operating activities	17,531	8,882	(7,608)	18,805
Cash flow from / (used in) investing activities				
Purchase of subsidiaries, associates and intangible assets	(6)	0	(20)	(26)
Disposal of subsidiaries, associates and intangible assets[2]	100	0	14	114
Purchase of property, equipment and software	(628)	(173)	(600)	(1,401)
Disposal of property, equipment and software	10	0	1	11
Purchase of financial assets measured at fair value through other comprehensive income	(10)	0	(3,414)	(3,424)
Disposal and redemption of financial assets measured at fair value through other comprehensive income	10	0	3,904	3,913
Net (purchase) / redemption of debt securities measured at amortized cost	(1,045)	437	45	(562)
Net cash flow from / (used in) investing activities	(1,569)	264	(70)	(1,374)
Cash flow from / (used in) financing activities				
Net short-term debt issued / (repaid)	(17,150)	0	0	(17,149)
Distributions paid on UBS shares	(3,250)	0	0	(3,250)
Repayment of lease liabilities	(262)	0	(234)	(496)
Issuance of long-term debt, including debt issued designated at fair value	58,437	621	142	59,199
Repayment of long-term debt, including debt issued designated at fair value	(67,113)	(752)	(1,017)	(68,883)
Funding from UBS Group AG and its subsidiaries[3]	5,848	0	0	5,848
Net changes in non-controlling interests	0	0	(8)	(8)
Net activity related to group internal capital transactions and dividends	3,569	(2,055)	(1,514)	0
Net cash flow from / (used in) financing activities	(19,922)	(2,186)	(2,630)	(24,738)

Total cash flow				
Cash and cash equivalents at the beginning of the year	42,895	54,757	28,201	125,853
Net cash flow from / (used in) operating, investing and financing activities	(3,960)	6,961	(10,308)	(7,307)
Effects of exchange rate differences on cash and cash equivalents	664	833	(239)	1,258
Cash and cash equivalents at the end of the year[4]	39,598	62,551	17,655	119,804
of which: cash and balances at central banks	*36,275*	*60,926*	*9,756*	*106,957*
of which: loans and advances to banks	*2,697*	*1,127*	*7,493*	*11,317*
of which: money market paper[5]	*626*	*498*	*406*	*1,530*

1 Cash flows generally represent a third-party view from a UBS AG consolidated perspective, except for Net activity related to group internal capital transactions and dividends. 2 Includes dividends received from associates. 3 Represents funding from UBS Group AG to UBS AG. 4 Comprises balances with an original maturity of three months or less. USD 3,192 million of cash and cash equivalents were restricted. 5 Money market paper is included in the balance sheet under Financial assets at fair value held for trading, Financial assets measured at fair value through other comprehensive income, Financial assets at fair value not held for trading, and Other financial assets measured at amortized cost.

Note 39 Supplemental guarantor information required under SEC regulations (continued)

Supplemental guarantor consolidated income statement

USD million For the year ended 31 December 2018	UBS AG (standalone)[1]	UBS Switzerland AG (standalone)[1]	Other subsidiaries[2]	Elimination entries	UBS AG (consolidated)
Operating income[3]					
Interest income	8,176	4,263	5,308	(2,960)	14,787
Interest expense	(8,673)	(901)	(3,240)	2,998	(9,815)
Net interest income	(497)	3,363	2,068	38	4,971
Other net income from financial instruments measured at fair value through profit or loss	5,204	889	970	(110)	6,953
Credit loss (expense) / recovery	(37)	(52)	(9)	(19)	(117)
Fee and commission income	2,655	4,474	13,159	(656)	19,632
Fee and commission expense	(851)	(391)	(1,108)	648	(1,703)
Net fee and commission income	1,804	4,083	12,050	(8)	17,930
Other income	4,722	198	2,110	(6,125)	905
Total operating income	11,196	8,480	17,189	(6,223)	30,642
Operating expenses					
Personnel expenses	3,592	1,890	8,510	0	13,992
General and administrative expenses	4,691	3,471	5,403	(3,490)	10,075
Depreciation and impairment of property, equipment and software	715	21	316	0	1,052
Amortization and impairment of goodwill and intangible assets	3	0	62	0	65
Total operating expenses	9,001	5,382	14,291	(3,490)	25,184
Operating profit / (loss) before tax	2,195	3,098	2,898	(2,733)	5,458
Tax expense / (benefit)	25	670	577	73	1,345
Net profit / (loss)	2,170	2,428	2,321	(2,806)	4,113
Net profit / (loss) attributable to non-controlling interests	0	0	7	0	7
Net profit / (loss) attributable to shareholders	2,170	2,428	2,314	(2,806)	4,107

1 Amounts presented for UBS AG standalone and UBS Switzerland AG standalone represent IFRS standalone information. Refer to the UBS AG standalone and UBS Switzerland AG standalone financial statements under "Complementary financial information" at www.ubs.com/investors for information prepared in accordance with Swiss GAAP. 2 The column "Other subsidiaries" includes consolidated information for the significant sub-groups UBS Americas Holding LLC, UBS Europe SE, UBS Asset Management AG and UBS Limited, as well as standalone information for other subsidiaries. 3 Effective 1 January 2019, UBS AG, UBS Switzerland AG and certain other subsidiaries refined the presentation of dividend income and expense, reclassifying dividends from Interest income (expense) to Other net income from financial instruments measured at fair value through profit or loss. Prior-year comparative information was restated accordingly. Refer to Note 1b for more information.

Note 39 Supplemental guarantor information required under SEC regulations (continued)

Supplemental guarantor consolidated statement of comprehensive income

USD million For the year ended 31 December 2018	UBS AG (standalone)[1]	UBS Switzerland AG (standalone)[1]	Other subsidiaries[2]	Elimination entries	UBS AG (consolidated)
Comprehensive income attributable to shareholders					
Net profit / (loss)	2,170	2,428	2,314	(2,806)	4,107
Other comprehensive income					
Other comprehensive income that may be reclassified to the income statement					
Foreign currency translation, net of tax	(369)	(109)	215	(252)	(515)
Financial assets measured at fair value through other comprehensive income, net of tax	0	0	(45)	0	(45)
Cash flow hedges, net of tax	(277)	2	19	(13)	(269)
Total other comprehensive income that may be reclassified to the income statement, net of tax	(646)	(107)	189	(265)	(829)
Other comprehensive income that will not be reclassified to the income statement					
Defined benefit plans, net of tax	89	(126)	212	0	175
Own credit on financial liabilities designated at fair value, net of tax	509				509
Total other comprehensive income that will not be reclassified to the income statement, net of tax	598	(126)	212	0	684
Total other comprehensive income	(48)	(233)	401	(265)	(145)
Total comprehensive income attributable to shareholders	2,122	2,195	2,715	(3,071)	3,961
Total comprehensive income attributable to non-controlling interests			5		5
Total comprehensive income	2,122	2,195	2,721	(3,071)	3,967

1 Amounts presented for UBS AG standalone and UBS Switzerland AG standalone represent IFRS standalone information. Refer to the UBS AG standalone and UBS Switzerland AG standalone financial statements under "Complementary financial information" at www.ubs.com/investors for information prepared in accordance with Swiss GAAP. 2 The column "Other subsidiaries" includes consolidated information for the significant sub-groups UBS Americas Holding LLC, UBS Europe SE, UBS Asset Management AG and UBS Limited, as well as standalone information for other subsidiaries.

Note 39 Supplemental guarantor information required under SEC regulations (continued)

Supplemental guarantor consolidated balance sheet

USD million As of 31 December 2018	UBS AG (standalone)[1]	UBS Switzerland AG (standalone)[1]	Other subsidiaries[2]	Elimination entries	UBS AG (consolidated)
Assets					
Cash and balances at central banks	36,350	53,490	18,530		108,370
Loans and advances to banks	34,063	7,405	21,151	(45,978)	16,642
Receivables from securities financing transactions	70,028	28,637	51,617	(54,932)	95,349
Cash collateral receivables on derivative instruments	23,136	559	12,148	(12,240)	23,603
Loans and advances to customers	93,141	188,013	62,166	(21,838)	321,482
Other financial assets measured at amortized cost	4,696	8,564	11,247	(1,869)	22,637
Total financial assets measured at amortized cost	261,415	286,667	176,858	(136,857)	588,084
Financial assets at fair value held for trading	92,784	62	15,578	(3,911)	104,513
of which: assets pledged as collateral that may be sold or repledged by counterparties	*49,509*	*0*	*7,326*	*(24,714)*	*32,121*
Derivative financial instruments	119,590	3,834	38,760	(35,972)	126,212
Brokerage receivables	11,063		5,779	(2)	16,840
Financial assets at fair value not held for trading	50,592	7,177	41,184	(16,566)	82,387
Total financial assets measured at fair value through profit or loss	274,030	11,073	101,300	(56,451)	329,953
Financial assets measured at fair value through other comprehensive income	171		6,495		6,667
Investments in subsidiaries and associates	50,971	20	31	(49,922)	1,099
Property, equipment and software	6,546	242	1,714	(24)	8,479
Goodwill and intangible assets	308		6,395	(56)	6,647
Deferred tax assets	533	198	9,282	52	10,066
Other non-financial assets	4,623	1,659	766	14	7,062
Total assets	598,598	299,860	302,842	(243,244)	958,055
Liabilities					
Amounts due to banks	36,430	24,774	44,377	(94,618)	10,962
Payables from securities financing transactions	36,840	1,167	27,297	(55,008)	10,296
Cash collateral payables on derivative instruments	28,096	35	12,894	(12,118)	28,906
Customer deposits	77,180	245,452	82,360	16,994	421,986
Funding from UBS Group AG and its subsidiaries[3]	41,202				41,202
Debt issued measured at amortized cost	82,653	8,578	587	(573)	91,245
Other financial liabilities measured at amortized cost	4,170	1,454	3,790	(1,838)	7,576
Total financial liabilities measured at amortized cost	306,571	281,460	171,305	(147,161)	612,174
Financial liabilities at fair value held for trading	23,455	493	8,829	(3,828)	28,949
Derivative financial instruments	119,131	3,510	39,107	(36,025)	125,723
Brokerage payables designated at fair value	26,559		11,875	(14)	38,420
Debt issued designated at fair value	55,378		1,670	(17)	57,031
Other financial liabilities designated at fair value	10,936		28,618	(5,959)	33,594
Total financial liabilities measured at fair value through profit or loss	235,458	4,004	90,098	(45,843)	283,717
Provisions	1,361	163	1,850	83	3,457
Other non-financial liabilities	1,676	929	3,623	47	6,275
Total liabilities	545,067	286,556	266,876	(192,875)	905,624
Equity attributable to shareholders	53,531	13,304	35,790	(50,369)	52,256
Equity attributable to non-controlling interests			176		176
Total equity	53,531	13,304	35,966	(50,369)	52,432
Total liabilities and equity	598,598	299,860	302,842	(243,244)	958,055

1 Amounts presented for UBS AG standalone and UBS Switzerland AG standalone represent IFRS standalone information. Refer to the UBS AG standalone and UBS Switzerland AG standalone financial statements under "Complementary financial information" at www.ubs.com/investors for information prepared in accordance with Swiss GAAP. 2 The column "Other subsidiaries" includes consolidated information for the significant sub-groups UBS Americas Holding LLC, UBS Europe SE, UBS Asset Management AG and UBS Limited, as well as standalone information for other subsidiaries. 3 Represents funding from UBS Group Funding (Switzerland) AG to UBS AG.

Note 39 Supplemental guarantor information required under SEC regulations (continued)

Supplemental guarantor consolidated statement of cash flows

USD million For the year ended 31 December 2018[1]	UBS AG[2]	UBS Switzerland AG[2]	Other subsidiaries[2]	UBS AG (consolidated)
Net cash flow from / (used in) operating activities	(652)	14,887	13,509	27,744
Cash flow from / (used in) investing activities				
Purchase of subsidiaries, associates and intangible assets	(124)	(5)	(158)	(287)
Disposal of subsidiaries, associates and intangible assets[3]	97	0	40	137
Purchase of property, equipment and software	(822)	(170)	(481)	(1,473)
Disposal of property, equipment and software	111	0	3	114
Purchase of financial assets measured at fair value through other comprehensive income	(170)	0	(1,829)	(1,999)
Disposal and redemption of financial assets measured at fair value through other comprehensive income	20	15	1,325	1,361
Net (purchase) / redemption of debt securities measured at amortized cost	(1,000)	2,111	(4,881)	(3,770)
Net cash flow from / (used in) investing activities	(1,888)	1,951	(5,982)	(5,918)
Cash flow from / (used in) financing activities				
Net short-term debt issued / (repaid)	(12,295)	(3)	53	(12,245)
Distributions paid on UBS shares	(3,098)	0	0	(3,098)
Issuance of long-term debt, including debt issued designated at fair value	53,294	872	560	54,726
Repayment of long-term debt, including debt issued designated at fair value	(42,759)	(812)	(772)	(44,344)
Funding from UBS Group AG and its subsidiaries[4]	5,956	0	0	5,956
Net changes in non-controlling interests	0	0	(31)	(31)
Net activity related to group internal capital transactions and dividends	3,000	(2,372)	(628)	0
Net cash flow from / (used in) financing activities	4,098	(2,315)	(820)	963
Total cash flow				
Cash and cash equivalents at the beginning of the year	41,570	40,961	22,256	104,787
Net cash flow from / (used in) operating, investing and financing activities	1,559	14,523	6,707	22,789
Effects of exchange rate differences on cash and cash equivalents	(234)	(726)	(762)	(1,722)
Cash and cash equivalents at the end of the year[5]	42,895	54,757	28,201	125,853
of which: cash and balances at central banks	*36,248*	*53,490*	*18,530*	*108,268*
of which: loans and advances to banks	*4,849*	*1,249*	*9,354*	*15,452*
of which: money market paper[6]	*1,798*	*18*	*318*	*2,133*

1 Upon adoption of IFRS 9 on 1 January 2018, cash flows from certain financial assets previously classified as available-for-sale assets have been reclassified from investing to operating activities as the assets are accounted for at fair value through profit or loss effective 1 January 2018. Refer to Note 1c of the Annual Report 2018 for more information. 2 Cash flows generally represent a third-party view from a UBS AG consolidated perspective, except for Net activity related to group internal capital transactions and dividends. 3 Includes dividends received from associates. 4 Represents funding from UBS Group Funding (Switzerland) AG to UBS AG. 5 Comprises balances with an original maturity of three months or less. USD 5,245 million of cash and cash equivalents were restricted. 6 Money market paper is included in the balance sheet under Financial assets at fair value held for trading, Financial assets measured at fair value through other comprehensive income, Financial assets at fair value not held for trading and Other financial assets measured at amortized cost.

Note 39 Supplemental guarantor information required under SEC regulations (continued)

Supplemental guarantor consolidated income statement

USD million For the year ended 31 December 2017	UBS AG (standalone)[1]	UBS Switzerland AG (standalone)[1]	Other subsidiaries[2]	Elimination entries	UBS AG (consolidated)
Operating income[3]					
Interest income	7,219	4,063	3,774	(2,338)	12,717
Interest expense	(6,101)	(680)	(2,161)	2,245	(6,696)
Net interest income	1,118	3,383	1,613	(93)	6,021
Other net income from financial instruments measured at fair value through profit or loss	3,821	918	836	64	5,640
Credit loss (expense) / recovery	(139)	(23)	(9)	40	(131)
Fee and commission income	2,561	4,424	13,315	(911)	19,390
Fee and commission expense	(968)	(380)	(1,357)	865	(1,840)
Net fee and commission income	1,594	4,045	11,958	(46)	17,550
Other income	4,387	172	3,022	(6,616)	965
Total operating income	10,780	8,495	17,420	(6,651)	30,044
Operating expenses					
Personnel expenses	4,488	2,060	8,403	0	14,952
General and administrative expenses	4,922	3,400	5,760	(5,081)	9,001
Depreciation and impairment of property, equipment and software	664	11	270	0	945
Amortization and impairment of goodwill and intangible assets	8	0	63	0	71
Total operating expenses	10,082	5,472	14,496	(5,081)	24,969
Operating profit / (loss) before tax	698	3,023	2,924	(1,570)	5,076
Tax expense / (benefit)	458	628	3,156	0	4,242
Net profit / (loss)	240	2,395	(232)	(1,570)	834
Net profit / (loss) attributable to preferred noteholders	73	0	0	0	73
Net profit / (loss) attributable to non-controlling interests	0	0	4	0	4
Net profit / (loss) attributable to shareholders	168	2,395	(236)	(1,569)	758

1 Amounts presented for UBS AG standalone and UBS Switzerland AG standalone represent IFRS standalone information. Refer to the UBS AG standalone and UBS Switzerland AG standalone financial statements under "Complementary financial information" at www.ubs.com/investors for information prepared in accordance with Swiss GAAP. 2 The column "Other subsidiaries" includes consolidated information for the significant sub-groups UBS Americas Holding LLC, UBS Europe SE, UBS Asset Management AG and UBS Limited, as well as standalone information for other subsidiaries. 3 Effective 1 January 2019, UBS AG, UBS Switzerland AG and certain other subsidiaries refined the presentation of dividend income and expense, reclassifying dividends from Interest income (expense) to Other net income from financial instruments measured at fair value through profit or loss. Prior-year comparative information was restated accordingly. Refer to Note 1b for more information.

Note 39 Supplemental guarantor information required under SEC regulations (continued)

Supplemental guarantor consolidated statement of comprehensive income

USD million For the year ended 31 December 2017	UBS AG (standalone)[1]	UBS Switzerland AG (standalone)[1]	Other subsidiaries[2]	Elimination entries	UBS AG (consolidated)
Comprehensive income attributable to shareholders					
Net profit / (loss)	168	2,395	(236)	(1,569)	758
Other comprehensive income					
Other comprehensive income that may be reclassified to the income statement					
Foreign currency translation, net of tax	2,177	500	(2,473)	1,318	1,522
Financial assets measured at fair value through other comprehensive income, net of tax	(10)	2	11	(93)	(91)
Cash flow hedges, net of tax	(474)	(162)	(1)	2	(635)
Total other comprehensive income that may be reclassified to the income statement, net of tax	1,693	340	(2,463)	1,226	797
Other comprehensive income that will not be reclassified to the income statement					
Defined benefit plans, net of tax	284	(22)	27	26	314
Own credit on financial liabilities designated at fair value, net of tax	(317)				(317)
Total other comprehensive income that will not be reclassified to the income statement, net of tax	(33)	(22)	27	26	(3)
Total other comprehensive income	1,660	318	(2,436)	1,252	794
Total comprehensive income attributable to shareholders	1,828	2,713	(2,672)	(317)	1,552
Total comprehensive income attributable to preferred noteholders	320				320
Total comprehensive income attributable to non-controlling interests			6		6
Total comprehensive income	2,148	2,713	(2,665)	(317)	1,878

1 Amounts presented for UBS AG standalone and UBS Switzerland AG standalone represent IFRS standalone information. Refer to the UBS AG standalone and UBS Switzerland AG standalone financial statements under "Complementary financial information" at www.ubs.com/investors for information prepared in accordance with Swiss GAAP. 2 The column "Other subsidiaries" includes consolidated information for the significant sub-groups UBS Americas Holding LLC, UBS Europe SE, UBS Asset Management AG and UBS Limited, as well as standalone information for other subsidiaries.

Note 39 Supplemental guarantor information required under SEC regulations (continued)

Supplemental guarantor consolidated statement of cash flows

USD million For the year ended 31 December 2017	UBS AG[1]	UBS Switzerland AG[1]	Other subsidiaries[1]	UBS AG (consolidated)
Net cash flow from / (used in) operating activities	(35,057)	(8,742)	(9,348)	(53,147)
Cash flow from / (used in) investing activities				
Purchase of subsidiaries, associates and intangible assets	0	(2)	(104)	(106)
Disposal of subsidiaries, associates and intangible assets[2]	291	0	48	339
Purchase of property, equipment and software	(1,054)	(86)	(393)	(1,532)
Disposal of property, equipment and software	1	0	209	210
Purchase of financial assets measured at fair value through other comprehensive income	(234)	0	(8,393)	(8,626)
Disposal and redemption of financial assets measured at fair value through other comprehensive income	3,489	1,580	10,181	15,250
Net (purchase) / redemption of financial assets held to maturity	(455)	364	0	(91)
Net cash flow from / (used in) investing activities	2,039	1,856	1,548	5,444
Cash flow from / (used in) financing activities				
Net short-term debt issued / (repaid)	24,556	(5)	(50)	24,500
Distributions paid on UBS shares	(2,219)	0	0	(2,219)
Issuance of long-term debt, including debt issued designated at fair value	39,232	631	409	40,270
Repayment of long-term debt, including debt issued designated at fair value	(43,605)	(589)	(993)	(45,187)
Funding from UBS Group AG and its subsidiaries[3]	11,180	0	0	11,180
Dividends paid and repayments of preferred notes	(782)	0	0	(782)
Net changes in non-controlling interests	0	0	(5)	(5)
Net activity related to group internal capital transactions and dividends	1,264	(194)	(1,071)	0
Net cash flow from / (used in) financing activities	29,625	(158)	(1,710)	27,758

Total cash flow

Cash and cash equivalents at the beginning of the year	43,495	45,815	29,674	118,984
Net cash flow from / (used in) operating, investing and financing activities	(3,393)	(7,043)	(9,510)	(19,944)
Effects of exchange rate differences on cash and cash equivalents	1,466	2,189	2,094	5,749
Cash and cash equivalents at the end of the year[4]	41,570	40,961	22,256	104,787
of which: cash and balances at central banks	*37,420*	*39,461*	*13,086*	*89,968*
of which: loans and advances to banks	*2,344*	*1,492*	*8,890*	*12,726*
of which: money market paper[5]	*1,806*	*7*	*280*	*2,093*

1 Cash flows generally represent a third-party view from a UBS AG consolidated perspective, except for Net activity related to group internal capital transactions and dividends. 2 Includes dividends received from associates. 3 Represents funding from UBS Group Funding (Switzerland) AG to UBS AG. 4 Comprises balances with an original maturity of three months or less. USD 2,497 of cash and cash equivalents were restricted. 5 Money market paper is included in the balance sheet under Financial assets at fair value held for trading, Financial assets measured at fair value through other comprehensive income, Financial assets at fair value not held for trading and Other financial assets measured at amortized cost.

Significant regulated subsidiary and sub-group information

Financial and regulatory key figures for our significant regulated subsidiaries and sub-groups

	UBS AG (standalone)		UBS Switzerland AG (standalone)		UBS Europe SE (consolidated)	UBS Americas Holding LLC (consolidated)	
	USD million, except where indicated		*CHF million, except where indicated*		*EUR million, except where indicated*	*USD million, except where indicated*	
As of or for the year ended	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19[1]	31.12.19	31.12.18[2]
Financial information[3,4,5]							
Income statement							
Total operating income	11,975	12,040	7,688	8,257	997	12,169	12,953
Total operating expenses	8,086	9,539	6,351	6,439	810	10,830	11,162
Operating profit / (loss) before tax	3,889	2,501	1,337	1,818	186	1,339	1,791
Net profit / (loss)	3,848	3,333	1,039	1,401	188	730	3,969
Balance sheet							
Total assets	478,946	480,238	285,014	293,034	46,247	139,293	142,761
Total liabilities	427,242	429,130	272,341	279,200	41,756	111,016	115,340
Total equity	51,705	51,107	12,673	13,834	4,490	28,277	27,421
Capital[6,7]							
Common equity tier 1 capital	49,521	49,411	10,895	10,225	3,486	11,939	11,746
Additional tier 1 capital	11,958	7,805	4,711	4,243	290	3,048	2,141
Tier 1 capital	61,479	57,217	15,606	14,468	3,776	14,987	13,887
Total going concern capital[8]	66,632	63,225	15,606	14,468	3,776		
Tier 2 capital						714	714
Total gone concern loss-absorbing capacity[8,9]			10,915	10,932	1,840[10]		
Total capital					3,776	15,702	14,601
Total loss-absorbing capacity[8,9]			26,521	25,400	5,616		
Risk-weighted assets and leverage ratio denominator[6,7]							
Risk-weighted assets	287,999	292,888	99,667	95,646	15,146	54,058	54,063
Leverage ratio denominator	589,127	601,013	302,304	306,487	41,924	127,290	122,829
Capital and leverage ratios (%)[6,7]							
Common equity tier 1 capital ratio	17.2	16.9	10.9	10.7	23.0	22.1	21.7
Tier 1 capital ratio					24.9	27.7	25.7
Going concern capital ratio[8]	23.1	21.6	15.7	15.1			
Total capital ratio					24.9	29.0	27.0
Total loss-absorbing capacity ratio[8]			26.6	26.6	37.1		
Leverage ratio[11]	11.3	10.5			9.0	11.8	11.3
Total loss-absorbing capacity leverage ratio[8]			8.8	8.3	13.4		
Liquidity[7,8,12]							
High-quality liquid assets (billion)	74	76	67	67	14		
Net cash outflows (billion)	54	55	52	53	10[13]		
Liquidity coverage ratio (%)[14,15]	137	139	130	128	147[13]		
Other							
Joint and several liability between UBS AG and UBS Switzerland AG (billion)[16]			17	26			

1 As a result of the cross-border merger of UBS Limited into UBS Europe SE effective 1 March 2019, UBS Europe SE became a significant regulated subsidiary of UBS Group AG. The size, scope and business model of the merged entity is now materially different. Comparatives for 31 December 2018 have not been provided in the table because data produced on the same basis is not available. 2 Figures as of or for the year ended 31 December 2018 have been adjusted for consistency with the full-year audited financial statements and/or local regulatory reporting, which were finalized after the publication of the UBS Group AG Annual Report 2018 and the 31 December 2018 Pillar 3 report on 15 March 2019. 3 UBS AG and UBS Switzerland AG financial information is prepared in accordance with Swiss GAAP (FINMA Circular 2015/1 and Banking Ordinance), but does not represent financial statements under Swiss GAAP. 4 UBS Europe SE financial information is prepared in accordance with International Financial Reporting Standards (IFRS), but does not represent financial statements under IFRS. 5 UBS Americas Holding LLC financial information is prepared in accordance with accounting principles generally accepted in the US (US GAAP), but does not represent financial statements under US GAAP. 6 For UBS AG and UBS Switzerland AG, based on applicable transitional arrangements for Swiss systemically relevant banks (SRBs). For UBS Europe SE, based on applicable EU Basel III rules. For UBS Americas Holding LLC, based on applicable US Basel III rules. 7 Refer to the 31 December 2019 Pillar 3 report available under "Pillar 3 disclosures" at www.ubs.com/investors for more information. 8 There was no local disclosure requirement for UBS Americas Holding LLC as of 31 December 2019 and 31 December 2018. 9 Total loss-absorbing capacity of UBS Americas Holding LLC is disclosed on a semi-annual basis in our Pillar 3 report. 10 Consists of positions which meet the conditions laid down in Art. 72a–b of the Capital Requirements Regulation (CRR) II with regard to contractual, structural or legal subordination. 11 For UBS AG, on the basis of going concern capital. On the basis of tier 1 capital for UBS Europe SE and UBS Americas Holding LLC. 12 For UBS Europe SE, figures as of 31 December 2019 are based on a ten-month average, rather than a twelve-month average, as data produced on the same basis is only available for the period since the cross-border merger. 13 Revised calculation excludes inflows from overdrafts which we cannot demand repayment of within 30 days. 14 UBS AG is required to maintain a minimum liquidity coverage ratio of 105% as communicated by FINMA. 15 UBS Switzerland AG, as a Swiss SRB, is required to maintain a minimum liquidity coverage ratio of 100%. 16 Refer to the "Capital management" section of this report for more information about the joint and several liability. Under certain circumstances, the Swiss Banking Act and FINMA's Banking Insolvency Ordinance authorize FINMA to modify, extinguish or convert to common equity liabilities of a bank in connection with a resolution or insolvency of such bank.

UBS Group AG is a holding company and conducts substantially all of its operations through UBS AG and its subsidiaries. UBS Group AG and UBS AG contribute a significant portion of their respective capital and provide substantial liquidity to their subsidiaries. Many of these subsidiaries are subject to regulations requiring compliance with minimum capital, liquidity and similar requirements. The table in this section summarizes the regulatory capital components and capital ratios of our significant regulated subsidiaries and sub-groups determined under the regulatory framework of each subsidiary's or sub-group's home jurisdiction.

→ **Refer to "Capital and capital ratios of our significant regulated subsidiaries" in the "Capital management" section of this report for more information**

→ **Refer to "Note 26 Restricted and transferred financial assets" in the "Consolidated financial statements" section of this report for more information.**

Supervisory authorities generally have discretion to impose higher requirements or to otherwise limit the activities of subsidiaries. Supervisory authorities also may require entities to measure capital and leverage ratios on a stressed basis and may limit the ability of an entity to engage in new activities or take capital actions based on the results of those tests.

In June 2019, the Federal Reserve Board released the results of its Comprehensive Capital Analysis and Review (CCAR) and did not object to the capital plan of UBS Americas Holding LLC, our US intermediate holding company.

Standalone regulatory information for UBS AG and UBS Switzerland AG, as well as consolidated regulatory information for UBS Europe SE and UBS Americas Holding LLC is provided in the 31 December 2019 Pillar 3 report, available under "Pillar 3 disclosures" at *www.ubs.com/investors*.

Standalone financial statements for UBS Group AG as well as standalone financial statements and regulatory information for UBS AG and UBS Switzerland AG are available under "Holding company and significant regulatory subsidiaries and sub-groups" at *www.ubs.com/investors*.

Additional regulatory information

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UBS Group AG consolidated supplemental disclosures required under SEC regulations

A – Introduction

The following pages contain supplemental UBS Group AG disclosures that are required under SEC regulations. UBS Group AG's consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB) and are denominated in US dollars (USD), which is also the functional currency of: UBS Group AG; UBS AG's Head Office; UBS AG, London Branch; and UBS's US-based operations.

B – Selected financial data

Key figures

	As of or for the year ended				
USD million, except where indicated	31.12.19	31.12.18	31.12.17	31.12.16	31.12.15
Group results					
Operating income	28,889	30,213	29,622	28,729	31,727
Operating expenses	23,312	24,222	24,272	24,519	26,026
Operating profit / (loss) from continuing operations before tax	5,577	5,991	5,351	4,209	5,701
Net profit / (loss) attributable to shareholders	4,304	4,516	969	3,348	6,473
Diluted earnings per share (USD)[1]	1.14	1.18	0.25	0.88	1.71
Profitability and growth[2]					
Return on equity (%)	7.9	8.6	1.8	6.1	12.0
Return on tangible equity (%)	9.0	9.8	2.0	6.9	13.9
Return on common equity tier 1 capital (%)	12.4	13.1	3.0	10.9	20.9
Return on risk-weighted assets, gross (%)	11.0	11.8	12.6	13.1	14.5
Return on leverage ratio denominator, gross (%)	3.2	3.3	3.3	3.2	
Cost / income ratio (%)	80.5	79.9	81.6	85.2	81.7
Adjusted cost / income ratio (%)	78.9	79.5	78.2	80.8	80.4
Effective tax rate (%)	22.7	24.5	80.5	18.5	(17.0)
Net profit growth (%)	(4.7)	366.0	(71.1)	(48.3)	70.6
Resources					
Total assets	972,183	958,489	939,279	918,906	941,380
Equity attributable to shareholders	54,533	52,928	52,495	52,916	55,336
Common equity tier 1 capital[3]	35,582	34,119	33,516	30,156	29,994
Risk-weighted assets[3]	259,208	263,747	243,636	218,785	207,189
Common equity tier 1 capital ratio (%)[4]	13.7	12.9	13.8	13.8	14.5
Going concern capital ratio (%)[3,6]	20.0	17.5	17.6	17.9	
Total loss-absorbing capacity ratio (%)[3,6]	34.6	31.7	33.0	31.1	
Leverage ratio denominator[3,5]	911,325	904,598	909,032	855,255	896,129
Common equity tier 1 leverage ratio (%)[4,5]	3.90	3.77	3.69	3.53	3.35
Going concern leverage ratio (%)[5,6]	5.7	5.1	4.7	4.6	
Total loss-absorbing capacity leverage ratio (%)[3,5,6]	9.8	9.3	8.8	7.9	
Average equity / average assets ratio (%)[7]	5.1	5.0	5.4	5.3	4.9

Key figures (continued)

	As of or for the year ended				
USD million, except where indicated	31.12.19	31.12.18	31.12.17	31.12.16	31.12.15
Other					
Invested assets (USD billion)[8]	3,607	3,101	3,262	2,761	2,674
Personnel (full-time equivalents)[9]	68,601	66,888	61,253	59,387	60,099
Americas	21,036	21,309	20,770	20,522	20,816
of which: USA	*20,232*	*20,495*	*19,944*	*19,695*	*19,897*
Asia Pacific	13,956	12,119	8,959	7,539	7,539
Europe, Middle East and Africa (excluding Switzerland)	12,918	12,620	11,097	10,746	10,505
of which: UK	*5,704*	*5,782*	*5,274*	*5,206*	*5,373*
of which: rest of Europe (excluding Switzerland)	*7,048*	*6,670*	*5,662*	*5,373*	*4,957*
of which: Middle East and Africa	*166*	*168*	*161*	*167*	*176*
Switzerland	20,691	20,840	20,427	20,581	21,238
Market capitalization[10]	45,661	45,907	68,477	58,177	73,099
Total book value per share (USD)[10]	15.08	14.35	14.11	14.25	14.75
Tangible book value per share (USD)[10]	13.29	12.55	12.34	12.52	13.00
Registered ordinary shares (number)[10]	3,859,055,395	3,855,634,749	3,853,096,603	3,850,766,389	3,849,731,535
Treasury shares (number)[10]	243,021,296	166,467,802	132,301,550	138,441,772	98,706,275

1 Refer to "Note 9 Earnings per share (EPS) and shares outstanding" in the "Consolidated financial statements" section of this report for more information. 2 Refer to the "Performance targets and measurement" section of this report for more information about our performance targets. 3 Based on the Swiss systemically relevant bank (SRB) framework as of 1 January 2020 and the fully applied Basel III framework. Refer to the "Capital management" section of the report for the respective period for more information. 4 Based on the Swiss SRB framework as of 1 January 2020. Refer to the "Capital management" section of this report for more information. 5 From 31 December 2015 onward, the leverage ratio denominator calculation is aligned with the Basel III rules. 6 Based on the revised Swiss SRB framework that became effective on 1 July 2016, therefore figures for periods prior to 31 December 2015 are not available. Refer to the "Capital management" section of this report for more information. 7 Calculated as average equity divided by average assets. 8 Includes invested assets for Global Wealth Management, Asset Management and Personal & Corporate Banking. 9 Personnel (full-time equivalents) as of 31 December 2019 has been amended compared with our fourth quarter 2019 report, resulting in a decrease of 61. 10 Refer to "UBS shares" in the "Capital management" section of this report for more information.

Income statement data

	For the year ended				
USD million, except where indicated	31.12.19	31.12.18	31.12.17	31.12.16	31.12.15
Net interest income[1]	4,501	5,048	6,070	6,206	6,213
Other net income from financial instruments measured at fair value through profit or loss[1]	6,842	6,960	5,637	5,291	6,752
Credit loss (expense) / recovery	(78)	(118)	(131)	(38)	(118)
Fee and commission income	19,110	19,598	19,362	18,374	19,738
Fee and commission expense	(1,696)	(1,703)	(1,840)	(1,781)	(1,948)
Net fee and commission income	17,413	17,895	17,522	16,593	17,790
Other income	212	428	524	677	1,090
Total operating income	28,889	30,213	29,622	28,729	31,727
Total operating expenses	23,312	24,222	24,272	24,519	26,026
Operating profit / (loss) before tax	5,577	5,991	5,351	4,209	5,701
Tax expense / (benefit)	1,267	1,468	4,305	777	(967)
Net profit / (loss)	4,310	4,522	1,046	3,432	6,668
Net profit / (loss) attributable to non-controlling interests	6	7	77	84	195
Net profit / (loss) attributable to shareholders	4,304	4,516	969	3,348	6,473
Cost / income ratio (%)	80.5	79.9	81.6	85.2	81.7
Per share data					
Basic earnings per share (USD)[2]	1.17	1.21	0.26	0.90	1.75
Diluted earnings per share (USD)[2]	1.14	1.18	0.25	0.88	1.71
Ordinary cash dividends declared per share (CHF)[3,4]		0.70	0.65	0.60	0.60
Ordinary cash dividends declared per share (USD)[3,4]	0.73	0.69	0.65	0.61	0.62
Special cash dividends declared per share (CHF)[3,4]					0.25
Special cash dividends declared per share (USD)[3,4]					0.26
Dividend payout ratio (%)	64	60[5]	260	69	51
Rates of return (%)					
Return on equity attributable to shareholders	7.9	8.6	1.8	6.1	12.0
Return on average equity	7.9	8.6	1.8	6.1	11.9
Return on average assets	0.4	0.4	0.1	0.3	0.6

1 Effective 1 January 2019, UBS refined the presentation of dividend income and expense, reclassifying dividends from Net interest income to Other net income from financial instruments measured at fair value through profit or loss. Prior-year comparative information was restated accordingly. 2 Refer to "Note 9 Earnings per share (EPS) and shares outstanding" in the "Consolidated financial statements" section of this report for more information. 3 Dividends and/or distribution of the capital contribution reserve are normally approved and paid in the year subsequent to the reporting period. 4 Refer to "Statement of proposed appropriation of total profit and dividend distribution out of total profit and capital contribution reserve" in the UBS Group AG standalone financial statements for more information. 5 The dividend payout ratio for the year ended 31 December 2018 was calculated based on the dividend per share in Swiss francs translated to US dollars using the closing exchange rate as of 31 December 2018.

Cash dividends received from investments in subsidiaries

In 2019, UBS Group AG received cash dividends of USD 3,400 million (2018: USD 3,180 million; 2017: USD 2,256 million) from its subsidiaries. Dividends disclosed were translated to US dollar from the functional currency of the entity paying the dividend, using the closing exchange rate of the month the dividend was received.

Balance sheet data

USD million	31.12.19	31.12.18	31.12.17	31.12.16	31.12.15
Assets					
Cash and balances at central banks	107,068	108,370	90,045	105,883	91,156
Loans and advances to banks	12,447	16,868	14,094	12,926	11,939
Receivables from securities financing transactions	84,245	95,349	91,951	79,936	93,323
Cash collateral receivables on derivative instruments	23,289	23,602	24,040	26,198	23,724
Loans and advances to customers	326,786	320,352	326,746	300,010	310,369
Other financial assets measured at amortized cost	22,980	22,563	37,815	27,115	19,739
Total financial assets measured at amortized cost	576,815	587,104	584,691	552,068	550,250
Financial assets at fair value held for trading	127,514	104,370	129,407	90,416	120,194
of which: assets pledged as collateral that may be sold or repledged by counterparties	*41,285*	*32,121*	*36,277*	*29,731*	*51,858*
Derivative financial instruments	121,841	126,210	121,285	155,642	167,159
Brokerage receivables	18,007	16,840			
Financial assets at fair value not held for trading	83,944	82,690	60,457	64,210	6,135
Total financial assets measured at fair value through profit or loss	351,307	330,110	311,148	310,269	293,489
Financial assets measured at fair value through other comprehensive income	6,345	6,667	8,889	15,402	62,440
Investments in associates	1,051	1,099	1,045	947	952
Property, equipment and software	12,804	9,348	9,057	8,186	7,682
Goodwill and intangible assets	6,469	6,647	6,563	6,442	6,557
Deferred tax assets	9,537	10,105	10,056	13,158	12,928
Other non-financial assets	7,856	7,410	7,830	12,434	7,081
Total assets	972,183	958,489	939,279	918,906	941,380
Liabilities					
Amounts due to banks	6,570	10,962	7,728	10,459	11,816
Payables from securities financing transactions	7,778	10,296	17,485	9,266	17,653
Cash collateral payables on derivative instruments	31,415	28,906	31,029	34,852	38,219
Customer deposits	448,284	419,838	419,577	416,267	389,543
Debt issued measured at amortized cost	110,497	132,271	143,160	101,837	92,994
Other financial liabilities measured at amortized cost	9,712	6,885	37,276	37,729	51,245
Total financial liabilities measured at amortized cost	614,256	609,158	656,255	610,410	601,470
Financial liabilities at fair value held for trading	30,591	28,943	31,251	22,425	29,089
Derivative financial instruments	120,880	125,723	119,137	151,121	162,163
Brokerage payables designated at fair value	37,233	38,420			
Debt issued designated at fair value	66,809	57,031	50,782	49,057	56,441
Other financial liabilities designated at fair value	35,940	33,594	16,643	14,122	22,142
Total financial liabilities measured at fair value through profit or loss	291,452	283,711	217,813	236,725	269,835
Provisions	2,974	3,494	3,214	4,101	4,157
Other non-financial liabilities	8,794	9,022	9,443	14,083	8,591
Total liabilities	917,476	905,386	886,725	865,320	884,052
Equity attributable to shareholders	54,533	52,928	52,495	52,916	55,336
Equity attributable to non-controlling interests	174	176	59	670	1,992
Total equity	54,707	53,103	52,554	53,586	57,328
Total liabilities and equity	972,183	958,489	939,279	918,906	941,380

C – Information about the company

Property, plant and equipment

As of 31 December 2019, UBS operated about 811 business and banking locations worldwide, of which approximately 38% were in Switzerland, 43% in the Americas, 11% in the rest of Europe, Middle East and Africa, and 8% in Asia Pacific. Of the business and banking locations in Switzerland, 28% were owned directly by UBS, with the remainder, along with most of UBS's offices outside Switzerland, being held under commercial leases. These premises are subject to continuous maintenance and upgrading and are considered suitable and adequate for current and anticipated operations.

D – Information required by industry guide 3

Selected statistical information

The following tables set forth select statistical information regarding the Group's banking operations extracted from its financial statements. Unless otherwise indicated, average balances for the years ended 31 December 2019, 31 December 2018 and 31 December 2017 are calculated from monthly data.

The distinction between domestic (Swiss) and foreign (non-Swiss) is generally based on the booking location. For loans, this method is not significantly different from an analysis based on the domicile of the borrower.

Average balances and interest rates

The following table sets forth average interest-earning assets and average interest-bearing liabilities, along with the average yield, for 2019, 2018 and 2017. Refer to "Note 3 Net interest income and other net income from financial instruments measured at fair value through profit or loss" in the "Consolidated financial statements" section of this report for more information about interest income and interest expense.

For the year ended	31.12.19			31.12.18			31.12.17		
USD million, except where indicated	Average balance	Interest income	Average yield (%)	Average balance	Interest income	Average yield (%)	Average balance	Interest income	Average yield (%)
Assets									
Balances at central banks									
Domestic	70,639	(208)	(0.3)	66,278	(168)	(0.3)	59,456	(142)	(0.2)
Foreign	34,017	194	0.6	35,088	191	0.5	41,514	142	0.3
Loans and advances to banks									
Domestic	2,574	29	1.1	2,700	25	0.9	3,564	15	0.4
Foreign	12,071	15	0.1	12,365	11	0.1	10,704	35	0.3
Receivables from securities financing transactions[1]									
Domestic	7,550	(11)	(0.1)	8,989	(42)	(0.5)	10,291	(39)	(0.4)
Foreign	99,269	1,654	1.7	93,615	1,237	1.3	160,333	811	0.5
Loans and advances to customers									
Domestic	189,438	3,280	1.7	190,854	3,249	1.7	189,258	3,230	1.7
Foreign	131,046	3,930	3.0	133,463	3,792	2.8	126,634	3,066	2.4
Financial assets at fair value[1,2,3]									
Domestic	9,311	72	0.8	12,399	53	0.4	15,964	45	0.3
Foreign	191,373	3,484	1.8	175,426	3,557	2.0	80,816	1,454	1.8
of which: taxable	*191,373*	*3,484*	*1.8*	*175,426*	*3,557*	*2.0*	*80,816*	*1,454*	*1.8*
Other interest-earning assets[2]									
Domestic	7,258	151	2.1	8,972	211	2.4	9,157	186	2.0
Foreign	35,471	637	1.8	31,863	454	1.4	42,513	904	2.1
Total interest-earning assets	790,017	13,226	1.7	772,013	12,569	1.6	750,204	9,706	1.3
Net interest income on swaps		711			632			1,486	
Interest income on off-balance sheet securities and other		429			492			457	
Interest income and average interest-earning assets	790,017	14,366[4]	1.8	772,013	13,692[4]	1.8	750,204	11,648[4]	1.6
Non-interest-earning assets									
Derivative financial instruments	126,654			129,286			132,356		
Fixed assets	12,360			9,216			8,656		
Other	143,643			139,028			119,281		
Total average assets	1,072,674			1,049,544			1,010,498		

1 Reverse repurchase agreements are presented on a gross basis and therefore, for the purpose of this disclosure, do not reflect the effect of netting permitted under IFRS. Certain reverse repurchase agreements with an average balance of USD 73 billion in 2017 were reclassified from amortized cost (presented under Receivables from securities financing transactions) to measured at fair value through profit or loss (presented under Financial assets at fair value) upon adoption of IFRS 9, Financial Instruments, on 1 January 2018. Prior-period information for 2017 is still presented under IAS 39 requirements and therefore may not be comparable. 2 In 2017 Other interest-earning assets included prime brokerage receivables, which mainly included margin lending receivables. Upon adoption of IFRS 9, Financial Instruments, on 1 January 2018, prime brokerage receivables were reclassified to measured at fair value through profit or loss (presented under Financial assets at fair value). Prior-period information for 2017 is still presented under IAS 39 requirements and therefore may not be comparable. Gross receivable and payable balances within a single prime brokerage arrangement are presented as either a net receivable or a net payable on the balance sheet. 3 Includes financial assets at fair value held for trading, financial assets at fair value not held for trading, financial assets at fair value through other comprehensive income and, for 2019 and 2018, brokerage receivables. 4 For the purpose of this disclosure, negative interest income on assets is presented as a reduction to interest income, while in the consolidated income statement negative interest income on assets is presented as interest expense. Refer to Note 3 in the "Consolidated financial statements" section of this report for more information.

Average balances and interest rates (continued)

For the year ended	31.12.19			31.12.18			31.12.17		
USD million, except where indicated	Average balance	Interest expense	Average interest rate (%)	Average balance	Interest expense	Average interest rate (%)	Average balance	Interest expense	Average interest rate (%)
Liabilities and equity									
Amount due to banks									
Domestic	6,012	(5)	(0.1)	7,477	20	0.3	7,821	14	0.2
Foreign	2,697	21	0.8	2,763	15	0.5	2,392	13	0.5
Payables from securities financing transactions[1]									
Domestic	3,238	18	0.6	3,626	5	0.1	2,513	6	0.2
Foreign	17,218	353	2.1	26,111	341	1.3	89,713	357	0.4
Customer deposits									
Domestic	243,484	(41)	0.0	247,619	(27)	0.0	249,592	(31)	0.0
of which: demand deposits	*123,833*	*(74)*	*(0.1)*	*128,395*	*(51)*	*0.0*	*134,737*	*(52)*	*0.0*
of which: savings deposits	*112,810*	*16*	*0.0*	*110,560*	*26*	*0.0*	*104,759*	*34*	*0.0*
of which: time deposits	*6,842*	*18*	*0.3*	*8,664*	*(2)*	*0.0*	*10,096*	*(13)*	*(0.1)*
Foreign	185,097	1,784	1.0	165,406	1,214	0.7	168,166	491	0.3
Short-term debt issued measured at amortized cost									
Domestic	113	0	0.0	126	1	0.8	649	(1)	(0.2)
Foreign	28,780	468	1.6	47,655	604	1.3	42,435	321	0.8
Long-term debt issued measured at amortized cost									
Domestic	58,802	2,043	3.5	52,702	1,827	3.5	40,107	1,420	3.5
Foreign	34,903	824	2.4	41,279	1,012	2.5	42,204	1,330	3.2
Financial liabilities at fair value (excluding debt issued designated at fair value)[1,2,3]									
Domestic	902	0	0.0	697	7	1.0	560	10	1.8
Foreign	143,216	1,834	1.3	120,894	1,595	1.3	17,763	369	2.1
Debt issued designated at fair value									
Domestic	2,337	43	1.8	2,568	13	0.5	2,127	13	0.6
Foreign	63,182	1,450	2.3	54,446	1,270	2.3	48,359	775	1.6
Other interest-bearing liabilities[2,5]									
Domestic	2,384	15	0.6	1,285	4	0.3	826	1	0.1
Foreign	32,850	470	1.4	29,806	259	0.9	63,171	464	0.7
Total interest-bearing liabilities	825,216	9,277	1.1	804,462	8,161	1.0	778,396	5,553	0.7
Swap interest on hedged debt issued and other swaps		(63)			(176)			(547)	
Interest expense on off-balance sheet securities and other		651			659			572	
Interest expense and average interest-bearing liabilities	825,216	9,865[4]	1.2	804,462	8,645[4]	1.1	778,396	5,578[4]	0.7
Non-interest-bearing liabilities									
Derivative financial instruments	124,593			127,760			129,551		
Other	68,405			64,801			47,802		
Total liabilities	1,018,213			997,024			955,750		
Total equity	54,461			52,520			54,748		
Total average liabilities and equity	1,072,674			1,049,544			1,010,498		
Net interest income		4,501			5,048			6,070	
Net yield on interest-earning assets			0.6			0.7			0.8

1 Repurchase agreements are presented on a gross basis and therefore, for the purpose of this disclosure, do not reflect the effect of netting permitted under IFRS. Certain repurchase agreements with an average balance of USD 73 billion in 2017 were reclassified from amortized cost (presented under Payables from securities financing transactions) to measured at fair value through profit or loss (presented under Financial liabilities at fair value (excluding debt issued designated at fair value)) upon adoption of IFRS 9, Financial Instruments, on 1 January 2018. Prior-period information for 2017 is still presented under IAS 39 requirements and therefore may not be comparable. 2 In 2017 Other interest-bearing liabilities included prime brokerage payables, which mainly included client securities financing and deposits. Upon adoption of IFRS 9, Financial Instruments, on 1 January 2018, prime brokerage payables were reclassified to measured at fair value through profit or loss (presented under Financial liabilities at fair value (excluding debt issued designated at fair value)). Prior-period information for 2017 is still presented under IAS 39 requirements and therefore may not be comparable. Gross receivable and payable balances within a single prime brokerage arrangement are presented as either a net receivable or a net payable on the balance sheet. 3 Includes financial liabilities at fair value held for trading, other financial liabilities designated at fair value and, for 2019 and 2018, brokerage payables designated at fair value. 4 For the purpose of this disclosure, negative interest expense on liabilities is presented as a reduction to interest expense, while in the consolidated income statement negative interest income on liabilities is presented as interest income. Refer to Note 3 in the "Consolidated financial statements" section of this report for more information. 5 Amounts disclosed for 2019 include lease liabilities that were recognized effective 1 January 2019 upon adoption of IFRS 16, Leases.

Average balances and interest rates (continued)

The percentage of total average interest-earning assets attributable to foreign activities was 64% for 2019 (2018: 62%; 2017: 62%). The percentage of total average interest-bearing liabilities attributable to foreign activities was 62% for 2019 (2018: 61%; 2017: 61%). All assets and liabilities are translated into US dollars at uniform month-end rates. Interest income and expense are translated at monthly average rates.

Average rates earned and paid on assets and liabilities can change from period to period based on the changes in interest rates in general, but are also affected by changes in the currency mix included in the assets and liabilities. Tax-exempt income is not recorded on a tax-equivalent basis. For all three years presented, tax-exempt income is considered to be insignificant and the effect from such income is therefore negligible.

Analysis of changes in interest income and expense

The following tables provide information by categories of interest-earning assets and interest-bearing liabilities on the changes in interest income and expense due to changes in volume and interest rates for the year ended 31 December 2019 compared with the year ended 31 December 2018, and for the year ended 31 December 2018 compared with the year ended 31 December 2017. Volume and rate variances have been calculated on movements in average balances and changes in interest rates. Changes due to a combination of volume and rates have been allocated proportionally.

	2019 compared with 2018			2018 compared with 2017		
	Increase / (decrease) due to changes in			Increase / (decrease) due to changes in		
USD million	Average volume	Average interest rate	Net change	Average volume	Average interest rate	Net change
Interest income from interest-earning assets						
Balances at central banks						
Domestic	(13)	(27)	(40)	(14)	(12)	(26)
Foreign	(5)	8	3	(19)	68	49
Loans and advances to banks						
Domestic	(1)	4	3	(3)	14	11
Foreign	0	5	5	5	(29)	(24)
Receivables from securities financing transactions[1]						
Domestic	7	24	31	5	(8)	(3)
Foreign	74	343	417	(334)	760	426
Loans and advances to customers						
Domestic	(24)	55	31	27	(8)	19
Foreign	(68)	206	138	164	562	726
Financial assets at fair value[1]						
Domestic	(12)	31	19	(11)	19	8
Foreign	319	(393)	(74)	1,703	401	2,104
of which: taxable	*319*	*(393)*	*(74)*	*1,703*	*401*	*2,104*
Other interest-earning assets						
Domestic	(41)	(19)	(60)	(4)	29	25
Foreign	51	132	183	(224)	(226)	(450)
Interest income						
Domestic	(84)	68	(16)	0	33	33
Foreign	371	302	673	1,295	1,535	2,830
Total interest income from interest-earning assets	287	370	657	1,295	1,568	2,863
Net interest income on swaps			79			(854)
Interest income on off-balance sheet securities and other			(63)			35
Total interest income			673			2,044

1 Certain reverse repurchase agreements with an average balance of USD 73 billion in 2017 were reclassified from amortized cost (presented under Receivables from securities financing transactions) to measured at fair value through profit or loss (presented under Financial assets at fair value) upon adoption of IFRS 9, Financial Instruments, on 1 January 2018. Prior-period information for 2017 is still presented under IAS 39 requirements and therefore may not be comparable.

Analysis of changes in interest income and expense (continued)

	2019 compared with 2018			2018 compared with 2017		
	Increase / (decrease) due to changes in			Increase / (decrease) due to changes in		
USD million	Average volume	Average interest rate	Net change	Average volume	Average interest rate	Net change
Interest expense on interest-bearing liabilities						
Amount due to banks						
Domestic	(4)	(21)	(25)	(1)	7	6
Foreign	0	5	5	2	0	2
Payables from securities financing transactions[1]						
Domestic	0	13	13	2	(3)	(1)
Foreign	(116)	128	12	(254)	238	(16)
Customer deposits						
Domestic	0	(13)	(13)	1	2	3
of which: demand deposits	*0*	*(23)*	*(23)*	*0*	*1*	*1*
of which: savings deposits	*0*	*(11)*	*(11)*	*0*	*(8)*	*(8)*
of which: time deposits	*0*	*20*	*20*	*1*	*10*	*11*
Foreign	138	433	571	(8)	730	722
Short-term debt issued measured at amortized cost						
Domestic	0	(1)	(1)	1	1	2
Foreign	(245)	109	(136)	42	242	284
Long-term debt issued measured at amortized cost						
Domestic	214	2	216	441	(33)	408
Foreign	(159)	(30)	(189)	(30)	(287)	(317)
Financial liabilities at fair value (excluding debt issued designated at fair value)[1]						
Domestic	2	(9)	(7)	2	(5)	(3)
Foreign	290	(52)	238	2,166	(940)	1,226
Debt issued designated at fair value						
Domestic	(1)	31	30	3	(3)	0
Foreign	201	(21)	180	97	398	495
Other interest-bearing liabilities						
Domestic	7	4	11	0	3	3
Foreign	116	94	210	(234)	29	(205)
Interest expense						
Domestic	218	6	224	449	(32)	417
Foreign	225	667	892	1,781	410	2,191
Total interest expense on interest-bearing liabilities	443	673	1,116	2,230	378	2,608
Swap interest on hedged debt issued and other swaps			113			371
Interest expense on off-balance sheet securities and other			(9)			88
Total interest expense			1,220			3,066

1 Certain repurchase agreements with an average balance of USD 73 billion in 2017 were reclassified from amortized cost (presented under Payables from securities financing transactions) to measured at fair value through profit or loss (presented under Financial liabilities at fair value (excluding debt issued designated at fair value) upon adoption of IFRS 9, Financial Instruments, on 1 January 2018. Prior-period information for 2017 is still presented under IAS 39 requirements and therefore may not be comparable.

Deposits

The following table analyzes average deposits and average rates on each deposit category for the years ended 31 December 2019, 2018 and 2017. The geographic allocation is based on the location of the office or branch where the deposit is made.

Deposits by foreign depositors in domestic offices were USD 54,251 million as of 31 December 2019 (31 December 2018: USD 63,174 million; 31 December 2017: USD 67,633 million).

	31.12.19		31.12.18		31.12.17	
USD million, except where indicated	Average deposits	Average rate (%)	Average deposits	Average rate (%)	Average deposits	Average rate (%)
Banks						
Domestic offices						
Demand deposits	4,045	(0.6)	4,155	(0.5)	4,013	(0.5)
Time deposits	1,966	0.9	3,323	1.2	3,808	0.9
Total domestic offices	6,012	(0.1)	7,477	0.3	7,821	0.2
Foreign offices						
Interest-bearing deposits	2,697	0.8	2,763	0.5	2,392	0.5
Total due to banks[1]	8,709	0.2	10,240	0.3	10,213	0.3
Customer accounts						
Domestic offices						
Demand deposits	123,833	(0.1)	128,395	0.0	134,737	0.0
Savings deposits	112,810	0.0	110,560	0.0	104,759	0.0
Time deposits	6,842	0.3	8,664	0.0	10,096	(0.1)
Total domestic offices	243,484	0.0	247,619	0.0	249,592	0.0
Foreign offices						
Demand deposits	53,981	0.2	55,846	0.2	59,982	0.1
Time and savings deposits	131,117	1.3	109,560	1.0	108,183	0.4
Total foreign offices	185,097	1.0	165,406	0.7	168,166	0.3
Total customer deposits	428,582	0.4	413,025	0.3	417,758	0.1

1 Due to banks is considered to represent short-term borrowings to the extent that the total Due to banks exceeds total Due from banks, without differentiating between domestic and foreign offices. The remainder of total Due to banks is considered to represent deposits for the purpose of this disclosure.

As of 31 December 2019, the maturity of time deposits was as follows:

USD million	Domestic	Foreign
Within 3 months	4,884	90,265
3 to 6 months	244	3,979
6 to 12 months	344	2,712
1 to 5 years	52	2,716
Over 5 years	17	22
Total time deposits	5,541	99,694

Short-term borrowings

The table below presents the period-end, average and maximum month-end outstanding amounts for short-term borrowings, along with average and period-end interest rates. Short-term borrowings are comprised of short-term debt and repurchase agreements. There were no short-term balances within amounts due to banks for the periods presented.

	Short-term debt[1]			Repurchase agreements[2]		
USD million, except where indicated	31.12.19	31.12.18	31.12.17	31.12.19	31.12.18	31.12.17
Period-end balance	21,837	39,025	52,270	103,880	108,584	94,437
Average balance	28,893	47,782	43,084	114,581	96,338	88,995
Maximum month-end balance	39,180	57,860	56,588	133,289	115,395	108,265
Average interest rate during the period (%)	1.6	1.3	0.7	1.2	1.0	0.2
Average interest rate at period end (%)	1.4	1.9	0.7	1.0	1.5	0.2

1 Short-term debt is comprised of certificates of deposit, commercial paper, acceptances and promissory notes, and other money market paper reported within Debt issued measured at amortized cost.
2 Repurchase agreements are presented on a gross basis and therefore, for the purpose of this disclosure, do not reflect the effect of netting permitted under IFRS.

Investments in debt instruments

The table below presents the carrying amount and yield of debt instruments (presented within Financial assets at fair value not held for trading, Financial assets measured at fair value through other comprehensive income and Other financial assets measured at amortized cost on the balance sheet) by contractual maturity bucket. The maturity information presented does not consider any early redemption features and debt instruments without fixed maturities are not included.

	Within 1 year		1 up to 5 years		5 to 10 years		Over 10 years		Total carrying amount
USD million, except percentages	Carrying amount	Yield (%)	Carrying amount	Yield (%)	Carrying amount	Yield (%)	Carrying amount	Yield (%)	
Financial assets at fair value not held for trading									
Swiss national government and agencies			57	(0.73)	11	0.23			68
US Treasury and agencies	1,990	1.92	7,236	1.89			106	4.44	9,332
Other foreign governments and official institutions	9,154	0.86	6,761	1.67	127	1.85	5,074	2.48	21,116
Corporate debt securities	4,765	0.91	5,039	1.27	35	0.15	1,430	3.79	11,269
Mortgage-backed securities							81	3.12	81
Subtotal as of 31 December 2019	15,909		19,093		173		6,691		41,867
Financial assets measured at fair value through other comprehensive income									
Swiss national government and agencies									0
US Treasury and agencies	718	1.10	353	1.12	483	2.15	305	1.44	1,859
Other foreign governments and official institutions	283	2.01	66	3.31					349
Corporate debt securities	54	4.03	128	3.33					182
Mortgage-backed securities					1,074	1.12	2,881	1.70	3,955
Subtotal as of 31 December 2019	1,054		547		1,557		3,185		6,345
Debt securities measured at amortized cost									
Swiss national government and agencies			1	3.92					1
US Treasury and agencies	747	1.95	3,815	2.02	3,493	2.31			8,055
Other foreign governments and official institutions	903	1.63	475	2.13					1,378
Corporate debt securities	702	0.96	1,259	1.65	143	(0.49)			2,104
Mortgage-backed securities							2,603	3.04	2,603
Subtotal as of 31 December 2019	2,352		5,550		3,636		2,603		14,141
Total as of 31 December 2019[1]	19,315		25,191		5,367		12,480		62,352

Investments in debt instruments (continued)

	Within 1 year		1 up to 5 years		5 to 10 years		Over 10 years		Total carrying amount
USD million, except percentages	Carrying amount	Yield (%)	Carrying amount	Yield (%)	Carrying amount	Yield (%)	Carrying amount	Yield (%)	
Financial assets at fair value not held for trading									
Swiss national government and agencies	203	(0.80)	73	(0.54)	13	0.14			290
US Treasury and agencies	7,725	2.15	3,444	1.93	87	2.13	140	2.34	11,396
Other foreign governments and official institutions	15,534	0.83	4,747	1.56	40	0.24			20,321
Corporate debt securities	3,765	0.93	3,749	1.02	1,092	1.35	5,354	2.98	13,960
Mortgage-backed securities							87	1.97	87
Subtotal as of 31 December 2018	27,227		12,013		1,233		5,581		46,053
Financial assets measured at fair value through other comprehensive income									
Swiss national government and agencies									0
US Treasury and agencies	734	1.22	1,237	1.31	249	2.46			2,220
Other foreign governments and official institutions	317	3.15	45	3.79					362
Corporate debt securities	26	4.02	127	3.62					153
Mortgage-backed securities					1,356	1.52	2,575	2.47	3,931
Subtotal as of 31 December 2018	1,077		1,409		1,605		2,575		6,667
Debt securities measured at amortized cost									
Swiss national government and agencies			1	4.00					1
US Treasury and agencies	1,334	1.16	2,846	1.83	4,152	2.13			8,332
Other foreign governments and official institutions	573	1.38	685	1.92					1,258
Corporate debt securities	220	1.11	892	1.63					1,112
Mortgage-backed securities							2,859	3.09	2,859
Subtotal as of 31 December 2018	2,127		4,424		4,152		2,859		13,562
Total as of 31 December 2018[1]	30,432		17,846		6,990		11,015		66,282

Investments in debt instruments (continued)

	Within 1 year		1 up to 5 years		5 to 10 years		Over 10 years		Total carrying amount
USD million, except percentages	Carrying amount	Yield (%)	Carrying amount	Yield (%)	Carrying amount	Yield (%)	Carrying amount	Yield (%)	
Financial assets at fair value not held for trading									
Swiss national government and agencies	924	(0.25)							924
US Treasury and agencies	8,714	1.20	3,345	1.64	2	1.51			12,061
Other foreign governments and official institutions	18,218	0.27	7,612	1.04	328	0.12			26,158
Corporate debt securities	2,578	0.12	6,377	1.03	556	0.16			9,512
Mortgage-backed securities							86	1.62	86
Subtotal as of 31 December 2017	30,434		17,335		886		86		48,741
Financial assets measured at fair value through other comprehensive income									
Swiss national government and agencies					1	4.00			1
US Treasury and agencies	870	0.57	1,741	1.24	147	0.70			2,758
Other foreign governments and official institutions	363	3.86	77	2.43					441
Corporate debt securities	391	1.06	509	0.97	52	0.18			953
Mortgage-backed securities			0	1.42	617	1.35	3,363	1.53	3,980
Subtotal as of 31 December 2017	1,625		2,328		818		3,363		8,134
Debt securities measured at amortized cost									
US Treasury and agencies			1,828	1.32	3,130	1.71			4,958
Other foreign governments and official institutions	1,919	(0.08)	793	1.36					2,712
Corporate debt securities	748	0.95	985	1.41					1,733
Subtotal as of 31 December 2017	2,667		3,606		3,130		0		9,403
Total as of 31 December 2017[1]	34,726		23,268		4,834		3,449		66,277

1 Includes investments in debt instruments as of 31 December 2019 issued by the US government and government agencies of USD 31,316 million (31 December 2018: USD 34,285 million; 31 December 2017: USD 23,758 million), the German government of USD 7,774 million (31 December 2018: USD 9,026 million; 31 December 2017: USD 7,043 million), the Japanese government of USD 2,298 million (31 December 2018: USD 5,588 million; 31 December 2017: USD 3,589 million) and the French government of USD 2,378 million (31 December 2018: USD 2,844 million; 31 December 2017: USD 6,098 million).

Loans and advances to banks and customers by industry (gross)

The Group's lending portfolio is widely diversified across industry sectors. An amount of USD 202 billion (59% of the total) relates to loans to thousands of private households, predominantly in Switzerland, which are in most instances secured by mortgages, financial collateral or other assets. Exposure to banks and financial institutions amounted to USD 79 billion (23% of the total). Exposure to banks includes money market deposits with highly rated institutions. Excluding banks and financial institutions, the largest industry sector exposure as of 31 December 2019 was to Services, amounting to USD 21 billion (6% of the total). For further discussion of the loan portfolio, refer to the "Risk management and control" section of this report.

The industry categories presented in the tables below and on the following page are consistent with the classification of loans for reporting to the Swiss Financial Market Supervisory Authority (FINMA) and the Swiss National Bank. Loans that are presented within the balance sheet reporting lines Financial assets at fair value held for trading and Financial assets at fair value not held for trading are excluded from the tables below and on the following page.

USD million	31.12.19	31.12.18	31.12.17	31.12.16	31.12.15
Domestic					
Banks	92	265	723	764	538
Chemicals	346	442	437	257	308
Construction	1,414	1,273	1,467	1,453	1,517
Electricity, gas and water supply	197	193	213	197	233
Financial services	7,246	6,754	5,265	5,050	5,317
Food and beverages	242	251	447	216	208
Hotels and restaurants	1,369	1,478	1,537	1,528	1,644
Manufacturing	1,897	1,916	2,331	1,965	2,009
Mining	14	11	15	19	23
Private households	131,280	127,761	127,585	121,582	123,763
Public authorities	704	888	1,053	1,340	1,606
Real estate and rentals	13,642	12,212	12,736	12,581	13,685
Retail and wholesale	4,153	4,278	4,122	3,938	3,681
Services	4,992	4,810	5,051	5,307	5,242
Transport, storage and communication	1,392	1,891	1,871	1,886	1,873
Other	816	730	750	696	696
Total domestic	169,795	165,153	165,601	158,778	162,341
Foreign					
Banks	12,361	16,610	13,374	12,165	11,394
Chemicals	87	158	61	138	113
Construction	1,004	746	838	540	634
Electricity, gas and water supply	758	587	691	576	705
Financial services	58,969	57,217	60,247	49,385	56,283
Food and beverages	55	48	59	67	65
Hotels and restaurants	297	340	1,494	168	148
Manufacturing	1,163	1,570	1,867	1,684	1,955
Mining	693	640	1,037	989	1,464
Private households	70,462	68,887	69,246	61,504	62,591
Public authorities	388	1,487	2,264	2,506	1,269
Real estate and rentals	2,308	2,886	3,213	2,030	2,209
Retail and wholesale	2,544	2,717	2,657	2,184	1,972
Services	16,133	16,279	17,173	19,158	17,899
Transport, storage and communication	2,331	2,149	2,215	2,398	2,853
Other	655	528	566	214	163
Total foreign	170,208	172,847	177,002	155,707	161,718
Total gross	340,003	338,000	342,604	314,485	324,059

Loans and advances to banks and customers by industry (gross) (continued)

The table below presents the percentage of loans and advances to banks and customers in each industry sector and geographic location in relation to total loans and advances to banks and customers.

In %	31.12.19	31.12.18	31.12.17	31.12.16	31.12.15
Domestic					
Banks	0.0	0.1	0.2	0.2	0.2
Chemicals	0.1	0.1	0.1	0.1	0.1
Construction	0.4	0.4	0.4	0.5	0.5
Electricity, gas and water supply	0.1	0.1	0.1	0.1	0.1
Financial services	2.1	2.0	1.5	1.6	1.6
Food and beverages	0.1	0.1	0.1	0.1	0.1
Hotels and restaurants	0.4	0.4	0.4	0.5	0.5
Manufacturing	0.6	0.6	0.7	0.6	0.6
Private households	38.6	37.8	37.2	38.7	38.2
Public authorities	0.2	0.3	0.3	0.4	0.5
Real estate and rentals	4.0	3.6	3.7	4.0	4.2
Retail and wholesale	1.2	1.3	1.2	1.3	1.1
Services	1.5	1.4	1.5	1.7	1.6
Transport, storage and communication	0.4	0.6	0.5	0.6	0.6
Other	0.2	0.2	0.2	0.2	0.2
Total domestic	49.9	48.9	48.3	50.5	50.1
Foreign					
Banks	3.6	4.9	3.9	3.9	3.5
Construction	0.3	0.2	0.2	0.2	0.2
Electricity, gas and water supply	0.2	0.2	0.2	0.2	0.2
Financial services	17.3	16.9	17.6	15.7	17.4
Hotels and restaurants	0.1	0.1	0.4	0.1	0.0
Manufacturing	0.3	0.5	0.5	0.5	0.6
Mining	0.2	0.2	0.3	0.3	0.5
Private households	20.7	20.4	20.2	19.6	19.3
Public authorities	0.1	0.4	0.7	0.8	0.4
Real estate and rentals	0.7	0.9	0.9	0.6	0.7
Retail and wholesale	0.7	0.8	0.8	0.7	0.6
Services	4.7	4.8	5.0	6.1	5.5
Transport, storage and communication	0.7	0.6	0.6	0.8	0.9
Other	0.2	0.2	0.2	0.1	0.1
Total foreign	50.1	51.1	51.7	49.5	49.9
Total gross	100.0	100.0	100.0	100.0	100.0

Loans and advances to banks and customers – mortgages (gross)

The table below provides more information about the Group's mortgage portfolio by client domicile and type of mortgage. Mortgages are included in the industry categories in the tables on the previous pages.

USD million	31.12.19	31.12.18	31.12.17	31.12.16	31.12.15
Mortgages					
Domestic	150,284	145,464	145,276	139,558	143,993
Foreign	27,970	24,771	22,092	19,573	18,856
Total gross mortgages	178,254	170,235	167,367	159,130	162,849
Mortgages					
Residential	158,333	150,999	148,167	139,711	141,375
Commercial	19,922	19,236	19,201	19,419	21,474
Total gross mortgages	178,254	170,235	167,367	159,130	162,849

Loans and advances to banks and customers – maturity profile (gross)

The table below provides the maturity profile of loans and advances to banks and customers. The maturity information presented does not consider any early redemption features.

USD million	Within 1 year	1 to 5 years	Over 5 years	Total
Domestic				
Banks	92	0	0	92
Mortgages	55,552	63,221	31,512	150,284
Other loans	13,438	4,445	1,535	19,418
Total domestic	69,082	67,666	33,047	169,795
Foreign				
Banks	12,176	179	6	12,361
Mortgages	3,971	5,714	18,285	27,970
Other loans	114,731	14,419	727	129,877
Total foreign	130,878	20,312	19,018	170,208
Total gross	199,960	87,977	52,066	340,003

As of 31 December 2019, total loans and advances to banks and customers granted at fixed and floating interest rates were as follows:

USD million	Within 1 year	1 to 5 years	Over 5 years	Total
Fixed-rate loans	135,674	64,401	37,670	237,745
Adjustable or floating-rate loans	64,286	23,577	14,395	102,258
Total	199,960	87,977	52,066	340,003

Non-performing loans

A claim is considered as non-performing when: (i) it is more than 90 days past due; (ii) it is subject to restructuring proceedings, where preferential conditions concerning interest rates, subordination, tenor, etc. have been granted in order to avoid default of the counterparty (forbearance); or (iii) the counterparty is subject to bankruptcy / enforced liquidation proceedings in any form, even if there is sufficient collateral to cover the due payment, or there is other evidence that payment obligations will not be fully met without recourse to collateral.

Refer to "Credit policies for distressed assets" in the "Risk management and control" section of this report for comprehensive information about UBS's distressed asset definitions, of which non-performing is a component. Also, refer to Note 1 and Note 23 in the "Consolidated financial statements" section of this report for more information about the various risk factors that are considered to be indicative of credit impairment.

The table below provides the Group's non-performing loans and advances to banks and customers.

USD million	31.12.19	31.12.18	31.12.17	31.12.16	31.12.15
Non-performing loans and advances to banks and customers:					
Domestic	1,471	1,548	1,374	1,497	1,172
Foreign	994	871	776	859	455
Total non-performing loans and advances to banks and customers	2,466	2,419	2,150	2,357	1,627

USD million	31.12.19	31.12.18	31.12.17	31.12.16	31.12.15
Gross interest income not collected on non-performing loans and advances to banks and customers:[1]					
Domestic	12	12	8	5	6
Foreign	14	36	25	22	7
Interest income included in Net profit for non-performing loans and advances to banks and customers:					
Domestic	20	20	32	36	25
Foreign	21	15	6	10	5

1 For credit-impaired financial assets, interest income is determined by applying the effective interest rate (EIR) to the amortized cost of the instrument, which represents the gross carrying amount adjusted for any loss allowance.

Forbearance (credit restructuring)

Under imminent payment default or where default has already occurred, UBS may grant concessions to borrowers in financial difficulties that it would otherwise not consider in the normal course of its business, such as preferential interest rates, extension of maturity, modifying the schedule of repayments, debt / equity swap, subordination, etc. When a forbearance measure takes place, each case is considered individually and the exposure is generally classified as defaulted. Forbearance classification will remain until the loan is collected or written off, non-preferential conditions are granted that supersede the preferential conditions or until the counterparty has recovered and the preferential conditions no longer exceed UBS's risk tolerance.

Contractual adjustments when there is no evidence of imminent payment default, or where changes to terms and conditions are within UBS's usual risk appetite, are not considered to be forborne.

Gross interest income not collected that relates to restructured non-performing loans and advances to banks and customers was not material to the results of operations in 2019, 2018, 2017, 2016 or 2015.

Cross-border outstandings

Cross-border outstandings consist of balances with central banks and other financial institutions, loans and advances to banks and customers and receivables from securities financing transactions with counterparties domiciled outside Switzerland. Guarantees and commitments are provided separately in the table below.

The following tables list those countries for which cross-border outstandings exceeded 0.75% of total IFRS assets at 31 December 2019, 2018 and 2017. As of 31 December 2019, there were no outstandings that exceeded 0.75% of total IFRS assets in any country currently facing debt restructuring or liquidity problems that the Group expects would materially affect the country's ability to service its obligations. Aggregate country risk exposures are monitored and reported on an ongoing basis. The internal risk view is not directly comparable to the cross-border outstandings in the table below due to different approaches to netting, differing trade populations and differing approach to allocation of exposures to countries. For more information about the country framework within risk control, refer to the "Risk management and control" section of this report.

	31.12.19					
USD million, except where indicated	Banks	Private sector	Public sector	Total outstandings	% of total assets	Guarantees and commitments[1]
USA	14,615	102,070	11,501	128,187	13.2	30,594
UK	1,828	47,405	4,095	53,328	5.5	4,457
Japan	5,109	2,855	8,283	16,247	1.7	20
Germany	595	3,235	6,374	10,203	1.0	1,036
Hong Kong	490	19,186	117	19,793	2.0	491
France	1,964	6,747	719	9,430	1.0	7,004

	31.12.18					
USD million, except where indicated	Banks	Private sector	Public sector	Total outstandings	% of total assets	Guarantees and commitments[1]
USA	20,298	95,274	16,135	131,707	13.7	21,686
UK	2,459	50,280	2,839	55,578	5.8	6,666
Japan	13,863	2,726	6,135	22,724	2.4	56
Germany	1,082	5,182	13,405	19,669	2.1	897
Hong Kong	1,148	15,388	125	16,661	1.7	984
France	2,404	5,503	393	8,299	0.9	5,402

	31.12.17					
USD million, except where indicated	Banks	Private sector	Public sector	Total outstandings	% of total assets	Guarantees and commitments[1]
USA	21,829	89,662	16,342	127,833	13.6	23,819
UK	2,342	54,552	6,563	63,457	6.8	12,457
Japan	1,725	8,354	9,148	19,228	2.0	82
Germany	1,515	8,488	9,345	19,348	2.1	1,375
France	2,516	5,841	5,142	13,500	1.4	6,002
Hong Kong	621	16,846	336	17,804	1.9	442
Singapore	169	4,518	3,036	7,724	0.8	522

1 Includes irrevocable forward starting transactions (reverse repurchase agreements and securities borrowing agreements).

Summary of movements in expected credit loss allowances and provisions

The following table provides more information about the movements in ECL allowances and provisions. Refer to "Credit risk" in the "Risk management and control" section of this report for more information.

USD million	31.12.19	31.12.18	31.12.17[1]	31.12.16[1]	31.12.15[1]
Balance at beginning of year	1,054[2]	1,146[2]	642	726	739
Domestic					
Write-offs					
Banks	(1)	0	0	0	0
Construction	(4)	(9)	(5)	(1)	(2)
Electricity, gas and water supply	(2)	(1)	0	0	(1)
Financial services	(1)	(4)	(3)	(3)	(3)
Hotels and restaurants	(7)	0	0	0	0
Manufacturing	(5)	(3)	(2)	(7)	(9)
Private households	(15)	(22)	(18)	(20)	(35)
Real estate and rentals	(2)	0	0	0	0
Retail and wholesale	(4)	(3)	(11)	(10)	(47)
Services	(3)	(4)	(11)	(3)	(3)
Transport, storage and communications	0	(4)	(3)	(4)	(9)
Total gross domestic write-offs	(44)	(51)	(53)	(49)	(110)
Foreign					
Write-offs					
Banks	(1)	0	0	0	(9)
Construction	0	0	(1)	0	0
Financial services	(4)	(4)	(24)	(4)	(3)
Manufacturing	(25)	(78)	0	(21)	0
Mining	(1)	(5)	(17)	(24)	(1)
Private households	(6)	(6)	(22)	(8)	(12)
Real estate and rentals	(2)	0	0	0	0
Retail and wholesale	(10)	(1)	0	0	(19)
Services	(10)	(10)	(4)	(16)	(10)
Transport, storage and communications	(2)	(36)	0	(20)	0
Other	(37)	(18)	0	0	0
Total gross foreign write-offs	(98)	(158)	(68)	(94)	(54)
Total usage of ECL provisions	0	0	0	0	0
Total write-offs / usage of ECL provisions	(142)	(210)	(121)	(143)	(164)
Recoveries					
Domestic	9	9	19	11	41
Foreign	3	0	1	11	7
Total recoveries	13	9	20	22	48
Total net write-offs / usage of ECL provisions	(130)	(201)	(101)	(121)	(116)
Increase / (decrease) in ECL allowances and provisions recognized in the income statement	78	118	128	31	118
Increase / (decrease) in ECL collective allowances recognized in the income statement	0	0	3	7	0
Foreign currency translation	8	(9)	21	(12)	(18)
Other	19	0	38	12	2
Balance at end of year[3]	1,029	1,054	731	642	726

1 Information is presented under IAS 39 requirements. 2 Includes stage 1 and stage 2 expected credit losses and additional stage 3 expected credit losses. Refer to "Note 1a Significant accounting policies" in the "Consolidated financial statements" section of this report for more information about IFRS 9. 3 Includes ECL allowances for receivables from securities financing transactions.

Allocation of the expected credit loss allowances and provisions[1]

The following table provides a breakdown of ECL allowances and provisions by industry sector and geographic location.

USD million	31.12.19	31.12.18	31.12.17	31.12.16	31.12.15
Domestic					
Banks	3	4	3	3	3
Chemicals	13	14	0	0	0
Construction	14	14	16	17	13
Electricity, gas and water supply	0	2	3	1	2
Financial services	40	36	23	12	17
Food and beverages	8	10	0	0	3
Hotels and restaurants	12	12	9	10	13
Manufacturing	86	75	58	59	77
Private households	150	180	46	45	47
Public authorities	1	1	0	0	0
Real estate and rentals	22	23	11	11	13
Retail and wholesale	92	94	76	66	78
Services	34	30	25	28	23
Transport, storage and communication	5	18	13	15	32
Other	2	2	0	0	0
Total domestic ECL-specific allowances	482	515	285	268	320
Foreign					
Banks	3	5	0	0	0
Chemicals	1	0	0	0	0
Construction	2	0	0	1	1
Financial services	54	49	42	63	90
Manufacturing	10	28	85	7	13
Mining	55	26	52	30	46
Private households	139	154	39	58	60
Public authorities	6	8	11	11	14
Real estate and rentals	25	38	24	2	1
Retail and wholesale	78	87	85	78	80
Services	22	23	23	17	19
Transport, storage and communication	35	3	39	40	40
Other	3	1	0	0	0
Total foreign ECL-specific allowances	433	422	399	309	365
ECL collective allowances	0	0	13	11	6
ECL provisions	114	116	34	54	35
Total ECL allowances and provisions	1,029	1,054	731	642	726

1 Prior-period 2017–2015 information is presented under IAS 39 requirements.

UBS AG consolidated supplemental disclosures required under SEC regulations

A – Introduction

The following pages contain supplemental UBS AG disclosures that are required under SEC regulations. UBS AG's consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB) and are denominated in US dollars (USD), which is also the functional currency of: UBS AG's Head Office; UBS AG, London Branch; and UBS AG's US-based operations.

B – Selected financial data

Key figures

	As of or for the year ended				
USD million, except where indicated	31.12.19	31.12.18	31.12.17	31.12.16	31.12.15
Results					
Operating income	29,307	30,642	30,044	28,831	31,727
Operating expenses	24,138	25,184	24,969	24,643	26,113
Operating profit / (loss) from continuing operations before tax	5,169	5,458	5,076	4,188	5,614
Net profit / (loss) attributable to shareholders	3,965	4,107	758	3,351	6,506
Profitability and growth[1]					
Return on equity (%)	7.4	7.9	1.4	6.0	11.8
Return on tangible equity (%)	8.5	9.1	1.6	6.9	13.5
Return on common equity tier 1 capital (%)	11.3	11.9	2.3	10.2	19.5
Return on risk-weighted assets, gross (%)	11.2	12.0	12.8	13.1	14.4
Return on leverage ratio denominator, gross (%)	3.2	3.4	3.4	3.2	
Cost / income ratio (%)	82.1	81.9	82.7	85.4	82.0
Net profit growth (%)	(3.4)	441.9	(77.4)	(48.5)	69.8
Resources					
Total assets	971,916	958,055	940,020	919,236	941,817
Equity attributable to shareholders	53,754	52,256	51,987	52,957	55,272
Common equity tier 1 capital[2]	35,280	34,608	34,100	31,879	31,989
Risk-weighted assets[2]	257,831	262,840	242,725	219,330	207,843
Common equity tier 1 capital ratio (%)[3]	13.7	13.2	14.0	14.5	15.4
Going concern capital ratio (%)[2,5]	18.3	16.1	15.6	16.3	
Total loss-absorbing capacity ratio (%)[2,5]	33.9	31.3	31.4	29.6	
Leverage ratio denominator[2,4]	911,232	904,458	910,133	855,718	896,771
Common equity tier 1 leverage ratio (%)[3,4]	3.87	3.83	3.75	3.73	3.57
Going concern leverage ratio (%)[4,5]	5.2	4.7	4.2	4.2	
Total loss-absorbing capacity leverage ratio (%)[2,4,5]	9.6	9.1	8.4	7.6	
Average equity / average assets ratio (%)[6]	4.9	4.9	5.3	5.3	5.0

Key figures (continued)

	As of or for the year ended				
USD million, except where indicated	31.12.19	31.12.18	31.12.17	31.12.16	31.12.15
Other					
Invested assets (USD billion)[7]	3,607	3,101	3,262	2,761	2,674
Personnel (full-time equivalents)[8]	47,005	47,643	46,009	56,208	58,131
Americas	21,036	21,309	20,770	20,522	20,816
of which: USA	*20,232*	*20,495*	*19,944*	*19,695*	*19,897*
Asia Pacific	7,958	7,987	6,891	6,633	7,348
Europe, Middle East and Africa (excluding Switzerland)	8,858	8,942	8,249	8,473	8,730
of which: UK	*5,704*	*5,782*	*5,274*	*5,206*	*5,373*
of which: rest of Europe (excluding Switzerland)	*2,988*	*2,992*	*2,814*	*3,100*	*3,181*
of which: Middle East and Africa	*166*	*168*	*161*	*167*	*176*
Switzerland	9,153	9,405	10,098	20,581	21,238
Registered ordinary shares (number)	3,858,408,466	3,858,408,466	3,858,408,466	3,858,408,466	3,858,408,466
Treasury shares (number)	0	0	0	0	0

1 Refer to the "Performance targets and measurement" section of this report for more information about our performance targets. 2 Based on the Swiss systemically relevant bank (SRB) framework as of 1 January 2020 and the fully applied Basel III framework. Refer to the "Capital management" section of the report for the respective period for more information. 3 Based on the Swiss SRB framework as of 1 January 2020. Refer to the "Capital management" section of this report for more information. 4 From 31 December 2015 onward, the leverage ratio denominator calculation is aligned with the Basel III rules. 5 Based on the revised Swiss SRB framework that became effective on 1 July 2016, therefore figures for periods prior to 31 December 2015 are not available. Refer to the "Capital management" section of this report for more information. 6 Calculated as average equity divided by average assets. 7 Includes invested assets for Global Wealth Management, Asset Management and Personal & Corporate Banking. 8 Personnel (full-time equivalents) as of 31 December 2019 has been amended compared with our fourth quarter 2019 report, resulting in a decrease of 28. As of 31 December 2019, the breakdown of personnel by business division and Corporate Center was: Global Wealth Management: 22,626; Personal & Corporate Banking: 5,064; Asset Management: 2,220; Investment Bank: 4,973; Corporate Center: 12,121.

Income statement data

	For the year ended				
USD million, except where indicated	31.12.19	31.12.18	31.12.17	31.12.16	31.12.15
Net interest income[1]	4,415	4,971	6,021	6,175	6,210
Other net income from financial instruments measured at fair value through profit or loss[1]	6,833	6,953	5,640	5,286	6,704
Credit loss (expense) / recovery	(78)	(117)	(131)	(38)	(118)
Fee and commission income	19,156	19,632	19,390	18,425	19,784
Fee and commission expense	(1,696)	(1,703)	(1,840)	(1,781)	(1,948)
Net fee and commission income	17,460	17,930	17,550	16,644	17,836
Other income	677	905	965	763	1,096
Total operating income	29,307	30,642	30,044	28,831	31,727
Total operating expenses	24,138	25,184	24,969	24,643	26,113
Operating profit / (loss) before tax	5,169	5,458	5,076	4,188	5,614
Tax expense / (benefit)	1,198	1,345	4,242	753	(977)
Net profit / (loss)	3,971	4,113	834	3,435	6,591
Net profit / (loss) attributable to preferred noteholders	0	0	73	80	82
Net profit / (loss) attributable to non-controlling interests	6	7	4	4	3
Net profit / (loss) attributable to shareholders	3,965	4,107	758	3,351	6,506
Cost / income ratio (%)	82.1	81.9	82.7	85.4	82.0
Rates of return (%)					
Return on equity attributable to shareholders	7.4	7.9	1.4	6.0	11.8
Return on average equity	7.5	8.0	1.4	6.1	11.8
Return on average assets	0.4	0.4	0.1	0.3	0.6

1 Effective 1 January 2019, UBS refined the presentation of dividend income and expense, reclassifying dividends from Net interest income to Other net income from financial instruments measured at fair value through profit or loss. Prior-year comparative information was restated accordingly.

Cash dividends received from investments in subsidiaries and associates

In 2019, UBS AG received cash dividends of USD 3,508 million (2018: USD 3,683 million; 2017: USD 1,299 million) from its subsidiaries and associates. Dividends disclosed were translated to US dollar from the functional currency of the entity paying the dividend, using the closing exchange rate of the month the dividend was received.

Balance sheet data

USD million	31.12.19	31.12.18	31.12.17	31.12.16	31.12.15
Assets					
Cash and balances at central banks	107,068	108,370	90,045	105,883	91,156
Loans and advances to banks	12,379	16,642	14,047	12,896	11,857
Receivables from securities financing transactions	84,245	95,349	91,951	79,936	93,323
Cash collateral receivables on derivative instruments	23,289	23,603	24,040	26,198	23,724
Loans and advances to customers	327,992	321,482	328,952	300,678	311,137
Other financial assets measured at amortized cost	23,012	22,637	37,890	27,130	19,830
Total financial assets measured at amortized cost	577,985	588,084	586,925	552,721	551,027
Financial assets at fair value held for trading	127,695	104,513	129,509	90,501	120,207
of which: assets pledged as collateral that may be sold or repledged by counterparties	*41,285*	*32,121*	*36,277*	*29,731*	*51,858*
Derivative financial instruments	121,843	126,212	121,286	155,642	167,159
Brokerage receivables	18,007	16,840			
Financial assets at fair value not held for trading	83,636	82,387	60,070	63,888	5,799
Total financial assets measured at fair value through profit or loss	351,181	329,953	310,865	310,031	293,164
Financial assets measured at fair value through other comprehensive income	6,345	6,667	8,889	15,402	62,440
Investments in associates	1,051	1,099	1,045	947	952
Property, equipment and software	11,826	8,479	8,191	8,152	7,671
Goodwill and intangible assets	6,469	6,647	6,563	6,442	6,557
Deferred tax assets	9,513	10,066	9,993	13,147	12,926
Other non-financial assets	7,547	7,062	7,548	12,395	7,079
Total assets	971,916	958,055	940,020	919,236	941,817
Liabilities					
Amounts due to banks	6,570	10,962	7,728	10,459	11,816
Payables from securities financing transactions	7,778	10,296	17,485	9,266	17,653
Cash collateral payables on derivative instruments	31,416	28,906	31,029	34,852	38,219
Customer deposits	450,591	421,986	423,058	418,129	391,037
Funding from UBS Group AG and its subsidiaries	47,866	41,202	35,648	24,201	10,821
Debt issued measured at amortized cost	62,835	91,245	107,458	77,617	82,224
Other financial liabilities measured at amortized cost	10,373	7,576	38,092	38,361	51,925
Total financial liabilities measured at amortized cost	617,429	612,174	660,498	612,884	603,696
Financial liabilities at fair value held for trading	30,591	28,949	31,251	22,426	29,089
Derivative financial instruments	120,880	125,723	119,138	151,121	162,163
Brokerage payables designated at fair value	37,233	38,420			
Debt issued designated at fair value	66,592	57,031	50,782	49,057	56,441
Other financial liabilities designated at fair value	36,157	33,594	16,643	14,122	22,142
Total financial liabilities measured at fair value through profit or loss	291,452	283,717	217,814	236,727	269,835
Provisions	2,938	3,457	3,164	4,097	4,156
Other non-financial liabilities	6,168	6,275	6,499	11,902	6,866
Total liabilities	917,988	905,624	887,974	865,610	884,553
Equity attributable to shareholders	53,754	52,256	51,987	52,957	55,272
Preferred noteholders				631	1,951
Equity attributable to non-controlling interests	174	176	59	39	41
Total equity	53,928	52,432	52,046	53,627	57,264
Total liabilities and equity	971,916	958,055	940,020	919,236	941,817

C – Information about the company

Property, plant and equipment

As of 31 December 2019, UBS AG operated about 772 business and banking locations worldwide, of which approximately 37% were in Switzerland, 45% in the Americas, 10% in the rest of Europe, Middle East and Africa, and 8% in Asia Pacific. Of the business and banking locations in Switzerland, 26% were owned directly by UBS AG, with the remainder, along with most of UBS AG's offices outside Switzerland, being held under commercial leases. These premises are subject to continuous maintenance and upgrading and are considered suitable and adequate for current and anticipated operations.

D – Information required by industry guide 3

Selected statistical information

The following tables set forth select statistical information regarding UBS AG's banking operations extracted from its financial statements. Unless otherwise indicated, average balances for the years ended 31 December 2019, 31 December 2018 and 31 December 2017 are calculated from monthly data.

The distinction between domestic (Swiss) and foreign (non-Swiss) is generally based on the booking location. For loans, this method is not significantly different from an analysis based on the domicile of the borrower.

Average balances and interest rates

The following table sets forth average interest-earning assets and average interest-bearing liabilities, along with the average yield, for 2019, 2018 and 2017. Refer to "Note 3 Net interest income and other net income from financial instruments measured at fair value through profit or loss" in the "Consolidated financial statements" section of this report for more information about interest income and interest expense.

For the year ended	31.12.19			31.12.18			31.12.17		
USD million, except where indicated	Average balance	Interest income	Average yield (%)	Average balance	Interest income	Average yield (%)	Average balance	Interest income	Average yield (%)
Assets									
Balances at central banks									
Domestic	70,639	(208)	(0.3)	66,278	(168)	(0.3)	59,456	(142)	(0.2)
Foreign	34,017	194	0.6	35,088	191	0.5	41,514	142	0.3
Loans and advances to banks									
Domestic	2,574	29	1.1	2,700	25	0.9	3,592	18	0.5
Foreign	11,853	15	0.1	12,293	11	0.1	10,668	35	0.3
Receivables from securities financing transactions[1]									
Domestic	7,550	(11)	(0.1)	8,989	(42)	(0.5)	10,291	(39)	(0.4)
Foreign	99,269	1,654	1.7	93,615	1,237	1.3	160,333	811	0.5
Loans and advances to customers									
Domestic	190,898	3,300	1.7	193,030	3,268	1.7	190,975	3,233	1.7
Foreign	131,020	3,926	3.0	133,451	3,789	2.8	126,672	3,065	2.4
Financial assets at fair value[1,2,3]									
Domestic	9,317	72	0.8	12,400	53	0.4	15,966	45	0.3
Foreign	191,500	3,484	1.8	175,581	3,557	2.0	80,921	1,454	1.8
of which: taxable	*191,500*	*3,484*	*1.8*	*175,581*	*3,557*	*2.0*	*80,921*	*1,454*	*1.8*
Other interest-earning assets[2]									
Domestic	7,258	151	2.1	8,972	211	2.4	9,157	186	2.0
Foreign	35,471	637	1.8	31,864	454	1.4	42,513	904	2.1
Total interest-earning assets	791,366	13,242	1.7	774,260	12,585	1.6	752,057	9,712	1.3
Net interest income on swaps		716			637			1,486	
Interest income on off-balance sheet securities and other		429			492			457	
Interest income and average interest-earning assets	791,366	14,386[4]	1.8	774,260	13,714[4]	1.8	752,057	11,654[4]	1.5
Non-interest-earning assets									
Derivative financial instruments	126,654			129,288			132,356		
Fixed assets	11,411			8,337			8,141		
Other	142,739			138,360			118,848		
Total average assets	1,072,170			1,050,245			1,011,403		

1 Reverse repurchase agreements are presented on a gross basis and therefore, for the purpose of this disclosure, do not reflect the effect of netting permitted under IFRS. Certain reverse repurchase agreements with an average balance of USD 73 billion in 2017 were reclassified from amortized cost (presented under Receivables from securities financing transactions) to measured at fair value through profit or loss (presented under Financial assets at fair value) upon adoption of IFRS 9, Financial Instruments, on 1 January 2018. Prior-period information for 2017 is still presented under IAS 39 requirements and therefore may not be comparable. 2 In 2017, Other interest-earning assets included prime brokerage receivables, which mainly included margin lending receivables. Upon adoption of IFRS 9, Financial Instruments, on 1 January 2018, prime brokerage receivables were reclassified to measured at fair value through profit or loss (presented under Financial assets at fair value). Prior-period information for 2017 is still presented under IAS 39 requirements and therefore may not be comparable. Gross receivable and payable balances within a single prime brokerage arrangement are presented as either a net receivable or a net payable on the balance sheet. 3 Includes financial assets at fair value held for trading, financial assets at fair value not held for trading, financial assets at fair value through other comprehensive income and, for 2019 and 2018, brokerage receivables. 4 For the purpose of this disclosure, negative interest income on assets is presented as a reduction to interest income, while in the consolidated income statement negative interest income on assets is presented as interest expense. Refer to Note 3 in the "Consolidated financial statements" section of this report for more information.

Average balances and interest rates (continued)

For the year ended	31.12.19			31.12.18			31.12.17		
USD million, except where indicated	Average balance	Interest expense	Average interest rate (%)	Average balance	Interest expense	Average interest rate (%)	Average balance	Interest expense	Average interest rate (%)
Liabilities and equity									
Amount due to banks									
Domestic	6,012	(5)	(0.1)	7,477	20	0.3	7,829	16	0.2
Foreign	2,697	21	0.8	2,763	15	0.5	2,392	17	0.7
Payables from securities financing transactions[1]									
Domestic	3,238	18	0.6	3,626	5	0.1	2,513	6	0.2
Foreign	17,218	353	2.1	26,111	341	1.3	89,713	357	0.4
Customer deposits and Funding from UBS Group AG and its subsidiaries									
Domestic	291,554	1,864	0.6	290,056	1,555	0.5	278,040	903	0.3
of which: demand deposits	*125,127*	*(66)*	*(0.1)*	*130,674*	*(39)*	*0.0*	*136,588*	*(47)*	*0.0*
of which: savings deposits	*112,810*	*16*	*0.0*	*110,560*	*26*	*0.0*	*104,759*	*34*	*0.0*
of which: time deposits	*53,617*	*1,914*	*3.6*	*48,822*	*1,567*	*3.2*	*36,693*	*916*	*2.5*
Foreign	185,093	1,784	1.0	165,405	1,214	0.7	174,632	654	0.4
Short-term debt issued measured at amortized cost									
Domestic	113	0	0.0	126	1	0.8	649	(1)	(0.2)
Foreign	28,780	468	1.6	47,655	604	1.3	42,435	321	0.8
Long-term debt issued measured at amortized cost									
Domestic	13,483	336	2.5	14,143	374	2.6	14,876	413	2.8
Foreign	34,903	824	2.4	41,279	1,012	2.5	35,793	1,135	3.2
Financial liabilities at fair value (excluding debt issued designated at fair value)[1,2,3]									
Domestic	903	0	0.0	697	7	1.0	560	10	1.8
Foreign	143,246	1,835	1.3	120,894	1,595	1.3	17,763	369	2.1
Debt issued designated at fair value									
Domestic	2,307	42	1.8	2,568	13	0.5	2,127	13	0.6
Foreign	63,182	1,450	2.3	54,446	1,270	2.3	48,359	775	1.6
Other interest-bearing liabilities[2,5]									
Domestic	2,381	15	0.6	1,285	4	0.3	826	1	0.1
Foreign	32,768	465	1.4	29,806	259	0.9	63,171	464	0.7
Total interest-bearing liabilities	827,878	9,470	1.1	808,338	8,290	1.0	781,676	5,455	0.7
Swap interest on hedged debt instruments and other swaps		(149)			(206)			(393)	
Interest expense on off-balance sheet securities and other		651			659			572	
Interest expense and average interest-bearing liabilities	827,878	9,971[4]	1.2	808,338	8,743[4]	1.1	781,676	5,633[4]	0.7
Non-interest-bearing liabilities									
Derivative financial instruments	124,593			127,762			129,551		
Other	66,477			62,655			45,807		
Total liabilities	1,018,948			998,755			957,034		
Total equity	53,221			51,490			54,369		
Total average liabilities and equity	1,072,170			1,050,245			1,011,403		
Net interest income		4,415			4,971			6,021	
Net yield on interest-earning assets			0.6			0.6			0.8

1 Repurchase agreements are presented on a gross basis and therefore, for the purpose of this disclosure, do not reflect the effect of netting permitted under IFRS. Certain repurchase agreements with an average balance of USD 73 billion in 2017 were reclassified from amortized cost (presented under Payables from securities financing transactions) to measured at fair value through profit or loss (presented under Financial liabilities at fair value (excluding debt issued designated at fair value)) upon adoption of IFRS 9, Financial Instruments, on 1 January 2018. Prior-period information for 2017 is still presented under IAS 39 requirements and therefore may not be comparable. 2 In 2017 Other interest-bearing liabilities included prime brokerage payables, which mainly included client securities financing and deposits. Upon adoption of IFRS 9, Financial Instruments, on 1 January 2018, prime brokerage payables were reclassified to measured at fair value through profit or loss (presented under Financial liabilities at fair value (excluding debt issued designated at fair value)). Prior-period information for 2017 is still presented under IAS 39 requirements and therefore may not be comparable. Gross receivable and payable balances within a single prime brokerage arrangement are presented as either a net receivable or a net payable on the balance sheet. 3 Includes financial liabilities at fair value held for trading, other financial liabilities designated at fair value and, for 2019 and 2018, brokerage payables designated at fair value. 4 For the purpose of this disclosure, negative interest expense on liabilities is presented as a reduction to interest expense, while in the consolidated income statement negative interest income on liabilities is presented as interest income. Refer to Note 3 in the "Consolidated financial statements" section of this report for more information. 5 Amounts disclosed for 2019 include lease liabilities that were recognized effective 1 January 2019 upon adoption of IFRS 16, Leases.

Average balances and interest rates (continued)

The percentage of total average interest-earning assets attributable to foreign activities was 64% for 2019 (2018: 62%; 2017: 62%). The percentage of total average interest-bearing liabilities attributable to foreign activities was 61% for 2019 (2018: 60%; 2017: 61%). All assets and liabilities are translated into US dollars at uniform month-end rates. Interest income and expense are translated at monthly average rates.

Average rates earned and paid on assets and liabilities can change from period to period based on the changes in interest rates in general, but are also affected by changes in the currency mix included in the assets and liabilities. Tax-exempt income is not recorded on a tax-equivalent basis. For all three years presented, tax-exempt income is considered to be insignificant and the effect from such income is therefore negligible.

Analysis of changes in interest income and expense

The following tables provide information by categories of interest-earning assets and interest-bearing liabilities on the changes in interest income and expense due to changes in volume and interest rates for the year ended 31 December 2019 compared with the year ended 31 December 2018, and for the year ended 31 December 2018 compared with the year ended 31 December 2017. Volume and rate variances have been calculated on movements in average balances and changes in interest rates. Changes due to a combination of volume and rates have been allocated proportionally.

	2019 compared with 2018			2018 compared with 2017		
	Increase / (decrease) due to changes in			Increase / (decrease) due to changes in		
USD million	Average volume	Average interest rate	Net change	Average volume	Average interest rate	Net change
Interest income from interest-earning assets						
Balances at central banks						
Domestic	(13)	(27)	(40)	(14)	(12)	(26)
Foreign	(5)	8	3	(19)	68	49
Loans and advances to banks						
Domestic	(1)	4	3	(4)	11	7
Foreign	0	5	5	5	(29)	(24)
Receivables from securities financing transactions[1]						
Domestic	7	24	31	5	(8)	(3)
Foreign	74	343	417	(334)	760	426
Loans and advances to customers						
Domestic	(36)	68	32	35	0	35
Foreign	(68)	205	137	163	561	724
Financial assets at fair value[1]						
Domestic	(12)	31	19	(11)	19	8
Foreign	318	(392)	(74)	1,704	400	2,104
of which: taxable	*318*	*(392)*	*(74)*	*1,704*	*400*	*2,104*
Other interest-earning assets						
Domestic	(41)	(19)	(60)	(4)	29	25
Foreign	51	132	183	(224)	(226)	(450)
Interest income						
Domestic	(96)	82	(14)	7	38	45
Foreign	370	301	671	1,295	1,533	2,828
Total interest income from interest-earning assets	274	383	657	1,302	1,571	2,873
Net interest income on swaps			78			(848)
Interest income on off-balance sheet securities and other			(63)			35
Total interest income			672			2,060

1 Certain reverse repurchase agreements with an average balance of USD 73 billion in 2017 were reclassified from amortized cost (presented under Receivables from securities financing transactions) to measured at fair value through profit or loss (presented under Financial assets at fair value) upon adoption of IFRS 9, Financial Instruments, on 1 January 2018. Prior-period information for 2017 is still presented under IAS 39 requirements and therefore may not be comparable.

Analysis of changes in interest income and expense (continued)

	2019 compared with 2018			2018 compared with 2017		
	Increase / (decrease) due to changes in			Increase / (decrease) due to changes in		
USD million	Average volume	Average interest rate	Net change	Average volume	Average interest rate	Net change
Interest expense on interest-bearing liabilities						
Amount due to banks						
Domestic	(4)	(20)	(24)	(1)	5	4
Foreign	0	5	5	3	(5)	(2)
Payables from securities financing transactions[1]						
Domestic	0	13	13	2	(3)	(1)
Foreign	(116)	128	12	(254)	238	(16)
Customer deposits and Funding from UBS Group AG and its subsidiaries						
Domestic	153	156	309	303	349	652
of which: demand deposits	*0*	*(27)*	*(27)*	*0*	*8*	*8*
of which: savings deposits	*0*	*(11)*	*(11)*	*0*	*(8)*	*(8)*
of which: time deposits	*153*	*193*	*346*	*303*	*349*	*652*
Foreign	138	433	571	(37)	596	559
Short-term debt issued measured at amortized cost						
Domestic	0	(1)	(1)	1	1	2
Foreign	(245)	109	(136)	42	242	284
Long-term debt issued measured at amortized cost						
Domestic	(17)	(21)	(38)	(21)	(18)	(39)
Foreign	(159)	(30)	(189)	176	(299)	(123)
Financial liabilities at fair value (excluding debt issued designated at fair value)[1]						
Domestic	2	(9)	(7)	2	(5)	(3)
Foreign	291	(51)	240	2,166	(940)	1,226
Debt issued designated at fair value						
Domestic	(1)	30	29	3	(3)	0
Foreign	201	(21)	180	97	398	495
Other interest-bearing liabilities						
Domestic	7	4	11	0	3	3
Foreign	112	94	206	(234)	29	(205)
Interest expense						
Domestic	140	152	292	289	328	617
Foreign	222	667	889	1,959	259	2,218
Total interest expense on interest-bearing liabilities	362	818	1,180	2,248	587	2,835
Swap interest on hedged debt instruments and other swaps			57			187
Interest expense on off-balance sheet securities and other			(9)			88
Total interest expense			1,228			3,109

1 Certain repurchase agreements with an average balance of USD 73 billion in 2017 were reclassified from amortized cost (presented under Payables from securities financing transactions) to measured at fair value through profit or loss (presented under Financial liabilities at fair value (excluding debt issued designated at fair value) upon adoption of IFRS 9, Financial Instruments, on 1 January 2018. Prior-period information for 2017 is still presented under IAS 39 requirements and therefore may not be comparable.

Deposits

The following table analyzes average deposits and average rates on each deposit category for the years ended 31 December 2019, 2018 and 2017. The geographic allocation is based on the location of the office or branch where the deposit is made.

Deposits by foreign depositors in domestic offices were USD 54,262 million as of 31 December 2019 (31 December 2018: USD 63,184 million; 31 December 2017: USD 67,644 million).

	31.12.19		31.12.18		31.12.17	
USD million, except where indicated	Average deposits	Average rate (%)	Average deposits	Average rate (%)	Average deposits	Average rate (%)
Banks						
Domestic offices						
Demand deposits	4,045	(0.6)	4,155	(0.5)	4,021	(0.4)
Time deposits	1,966	0.9	3,323	1.2	3,808	0.9
Total domestic offices	6,012	(0.1)	7,477	0.3	7,829	0.2
Foreign offices						
Interest-bearing deposits	2,697	0.8	2,763	0.5	2,392	0.7
Total due to banks[1]	8,709	0.2	10,240	0.3	10,221	0.3
Customer accounts						
Domestic offices						
Demand deposits	125,127	(0.1)	130,674	0.0	136,588	0.0
Savings deposits	112,810	0.0	110,560	0.0	104,759	0.0
Time deposits	53,617	3.6	48,822	3.2	36,693	2.5
Total domestic offices	291,554	0.6	290,056	0.5	278,040	0.3
Foreign offices						
Demand deposits	53,976	0.2	55,846	0.2	59,992	0.1
Time and savings deposits	131,117	1.3	109,560	1.0	114,640	0.5
Total foreign offices	185,093	1.0	165,406	0.7	174,632	0.4
Total customer deposits	476,647	0.8	455,461	0.6	452,672	0.3

1 Due to banks is considered to represent short-term borrowings to the extent that the total Due to banks exceeds total Due from banks, without differentiating between domestic and foreign offices. The remainder of total Due to banks is considered to represent deposits for the purpose of this disclosure.

As of 31 December 2019, the maturity of time deposits was as follows:

USD million	Domestic	Foreign
Within 3 months	5,267	90,265
3 to 6 months	244	3,979
6 to 12 months	2,141	2,712
1 to 5 years	22,813	2,716
Over 5 years	24,287	22
Total time deposits	54,751	99,694

Short-term borrowings

The table below presents the period-end, average and maximum month-end outstanding amounts for short-term borrowings, along with average and period-end interest rates. Short-term borrowings are comprised of short-term debt and repurchase agreements. There were no short-term balances within amounts due to banks for the periods presented.

	Short-term debt[1]			Repurchase agreements[2]		
USD million, except where indicated	31.12.19	31.12.18	31.12.17	31.12.19	31.12.18	31.12.17
Period-end balance	21,837	39,025	52,270	103,880	108,584	94,437
Average balance	28,893	47,782	43,084	114,581	96,338	88,995
Maximum month-end balance	39,180	57,860	56,588	133,289	115,395	108,265
Average interest rate during the period (%)	1.6	1.3	0.7	1.2	1.0	0.2
Average interest rate at period end (%)	1.4	1.9	0.7	1.0	1.5	0.2

1 Short-term debt is comprised of certificates of deposit, commercial paper, acceptances and promissory notes, and other money market paper reported within Debt issued measured at amortized cost.
2 Repurchase agreements are presented on a gross basis and therefore, for the purpose of this disclosure, do not reflect the effect of netting permitted under IFRS.

Investments in debt instruments

The table below presents the carrying amount and yield of debt instruments (presented within Financial assets at fair value not held for trading, Financial assets measured at fair value through other comprehensive income and Other financial assets measured at amortized cost on the balance sheet) by contractual maturity bucket. The maturity information presented does not consider any early redemption features and debt instruments without fixed maturities are not included.

	Within 1 year		1 up to 5 years		5 to 10 years		Over 10 years		Total carrying amount
USD million, except percentages	Carrying amount	Yield (%)	Carrying amount	Yield (%)	Carrying amount	Yield (%)	Carrying amount	Yield (%)	
Financial assets at fair value not held for trading									
Swiss national government and agencies			57	(0.73)	11	0.23			68
US Treasury and agencies	1,990	1.92	7,236	1.89			106	4.44	9,332
Other foreign governments and official institutions	9,154	0.86	6,761	1.67	127	1.85	5,074	2.48	21,116
Corporate debt securities	4,765	0.91	5,039	1.27	35	0.15	1,430	3.79	11,269
Mortgage-backed securities							81	3.12	81
Subtotal as of 31 December 2019	15,909		19,093		173		6,691		41,867
Financial assets measured at fair value through other comprehensive income									
Swiss national government and agencies									0
US Treasury and agencies	718	1.10	353	1.12	483	2.15	305	1.44	1,859
Other foreign governments and official institutions	283	2.01	66	3.31					349
Corporate debt securities	54	4.03	128	3.33					182
Mortgage-backed securities					1,074	1.12	2,881	1.70	3,955
Subtotal as of 31 December 2019	1,054		547		1,557		3,185		6,345
Debt securities measured at amortized cost									
Swiss national government and agencies			1	3.92					1
US Treasury and agencies	747	1.95	3,815	2.02	3,493	2.31			8,055
Other foreign governments and official institutions	903	1.63	475	2.13					1,378
Corporate debt securities	702	0.96	1,259	1.65	143	(0.49)			2,104
Mortgage-backed securities							2,603	3.04	2,603
Subtotal as of 31 December 2019	2,352		5,550		3,636		2,603		14,141
Total as of 31 December 2019[1]	19,315		25,191		5,367		12,480		62,352

Investments in debt instruments (continued)

	Within 1 year		1 up to 5 years		5 to 10 years		Over 10 years		Total carrying amount
USD million, except percentages	Carrying amount	Yield (%)	Carrying amount	Yield (%)	Carrying amount	Yield (%)	Carrying amount	Yield (%)	
Financial assets at fair value not held for trading									
Swiss national government and agencies	203	(0.80)	73	(0.54)	13	0.14			290
US Treasury and agencies	7,725	2.15	3,444	1.93	87	2.13	140	2.34	11,396
Other foreign governments and official institutions	15,534	0.83	4,747	1.56	40	0.24			20,321
Corporate debt securities	3,765	0.93	3,749	1.02	1,092	1.35	5,354	2.98	13,960
Mortgage-backed securities							87	1.97	87
Subtotal as of 31 December 2018	27,227		12,013		1,233		5,581		46,053
Financial assets measured at fair value through other comprehensive income									
Swiss national government and agencies									0
US Treasury and agencies	734	1.22	1,237	1.31	249	2.46			2,220
Other foreign governments and official institutions	317	3.15	45	3.79					362
Corporate debt securities	26	4.02	127	3.62					153
Mortgage-backed securities					1,356	1.52	2,575	2.47	3,931
Subtotal as of 31 December 2018	1,077		1,409		1,605		2,575		6,667
Debt securities measured at amortized cost									
Swiss national government and agencies			1	4.00					1
US Treasury and agencies	1,334	1.16	2,846	1.83	4,152	2.13			8,332
Other foreign governments and official institutions	573	1.38	685	1.92					1,258
Corporate debt securities	220	1.11	892	1.63					1,112
Mortgage-backed securities							2,859	3.09	2,859
Subtotal as of 31 December 2018	2,127		4,424		4,152		2,859		13,562
Total as of 31 December 2018[1]	30,432		17,846		6,990		11,015		66,282

Investments in debt instruments (continued)

USD million, except percentages	Within 1 year		1 up to 5 years		5 to 10 years		Over 10 years		Total carrying amount
	Carrying amount	Yield (%)	Carrying amount	Yield (%)	Carrying amount	Yield (%)	Carrying amount	Yield (%)	
Financial assets at fair value not held for trading									
Swiss national government and agencies	924	(0.25)							924
US Treasury and agencies	8,714	1.20	3,345	1.64	2	1.51			12,061
Other foreign governments and official institutions	18,218	0.27	7,612	1.04	328	0.12			26,158
Corporate debt securities	2,578	0.12	6,377	1.03	556	0.16			9,512
Mortgage-backed securities							86	1.62	86
Subtotal as of 31 December 2017	30,434		17,335		886		86		48,741
Financial assets measured at fair value through other comprehensive income									
Swiss national government and agencies					1	4.00			1
US Treasury and agencies	870	0.57	1,741	1.24	147	0.70			2,758
Other foreign governments and official institutions	363	3.86	77	2.43					441
Corporate debt securities	391	1.06	509	0.97	52	0.18			953
Mortgage-backed securities			0	1.42	617	1.35	3,363	1.53	3,980
Subtotal as of 31 December 2017	1,625		2,328		818		3,363		8,134
Debt securities measured at amortized cost									
US Treasury and agencies			1,828	1.32	3,130	1.71			4,958
Other foreign governments and official institutions	1,919	(0.08)	793	1.36					2,712
Corporate debt securities	748	0.95	985	1.41					1,733
Subtotal as of 31 December 2017	2,667		3,606		3,130		0		9,403
Total as of 31 December 2017[1]	34,726		23,268		4,834		3,449		66,277

1 Includes investments in debt instruments as of 31 December 2019 issued by the US government and government agencies of USD 31,316 million (31 December 2018: USD 34,285 million; 31 December 2017: USD 23,758 million), the German government of USD 7,774 million (31 December 2018: USD 9,026 million; 31 December 2017: USD 7,043 million), the Japanese government of USD 2,298 million (31 December 2018: USD 5,588 million; 31 December 2017: USD 3,589 million) and the French government of USD 2,378 million (31 December 2018: USD 2,844 million; 31 December 2017: USD 6,098 million).

Loans and advances to banks and customers by industry (gross)

UBS AG's lending portfolio is widely diversified across industry sectors. An amount of USD 202 billion (59% of the total) relates to loans to thousands of private households, predominantly in Switzerland, which are in most instances secured by mortgages, financial collateral or other assets. Exposure to banks and financial institutions amounted to USD 80 billion (23% of the total). Exposure to banks includes money market deposits with highly rated institutions. Excluding banks and financial institutions, the largest industry sector exposure as of 31 December 2019 was to Services, amounting to USD 21 billion (6% of the total). For further discussion of the loan portfolio, refer to the "Risk management and control" section of this report.

The industry categories presented in the tables below and on the following page are consistent with the classification of loans for reporting to the Swiss Financial Market Supervisory Authority (FINMA) and the Swiss National Bank. Loans that are presented within the balance sheet reporting lines Financial assets at fair value held for trading and Financial assets at fair value not held for trading are excluded from the tables below and on the following page.

USD million	31.12.19	31.12.18	31.12.17	31.12.16	31.12.15
Domestic					
Banks	92	265	723	764	771
Chemicals	346	442	437	257	308
Construction	1,414	1,273	1,467	1,453	1,517
Electricity, gas and water supply	197	193	213	197	233
Financial services	8,331	7,744	7,343	5,619	6,051
Food and beverages	242	251	447	216	208
Hotels and restaurants	1,369	1,478	1,537	1,528	1,644
Manufacturing	1,897	1,916	2,331	1,965	2,009
Mining	14	11	15	19	23
Private households	131,280	127,761	127,585	121,582	123,763
Public authorities	704	888	1,053	1,340	1,606
Real estate and rentals	13,642	12,212	12,736	12,581	13,685
Retail and wholesale	4,153	4,278	4,122	3,938	3,681
Services	4,992	4,810	5,051	5,307	5,242
Transport, storage and communication	1,392	1,891	1,871	1,886	1,873
Other	816	730	750	696	696
Total domestic	170,880	166,143	167,680	159,347	163,309
Foreign					
Banks	12,292	16,384	13,327	12,134	11,078
Chemicals	87	158	61	138	113
Construction	1,004	746	838	540	634
Electricity, gas and water supply	758	587	691	576	705
Financial services	59,139	57,388	60,377	49,486	56,321
Food and beverages	55	48	59	67	65
Hotels and restaurants	297	340	1,494	168	148
Manufacturing	1,163	1,570	1,867	1,684	1,955
Mining	693	640	1,037	989	1,464
Private households	70,462	68,887	69,246	61,504	62,591
Public authorities	388	1,487	2,264	2,506	1,269
Real estate and rentals	2,308	2,886	3,213	2,030	2,209
Retail and wholesale	2,544	2,717	2,657	2,184	1,972
Services	16,085	16,248	17,171	19,157	17,895
Transport, storage and communication	2,331	2,149	2,215	2,398	2,853
Other	655	528	566	214	163
Total foreign	170,261	172,761	177,083	155,776	161,437
Total gross	341,141	338,904	344,763	315,122	324,746

Loans and advances to banks and customers by industry (gross) (continued)

The table below presents the percentage of loans and advances to banks and customers in each industry sector and geographic location in relation to total loans and advances to banks and customers.

In %	31.12.19	31.12.18	31.12.17	31.12.16	31.12.15
Domestic					
Banks	0.0	0.1	0.2	0.2	0.2
Chemicals	0.1	0.1	0.1	0.1	0.1
Construction	0.4	0.4	0.4	0.5	0.5
Electricity, gas and water supply	0.1	0.1	0.1	0.1	0.1
Financial services	2.4	2.3	2.1	1.8	1.9
Food and beverages	0.1	0.1	0.1	0.1	0.1
Hotels and restaurants	0.4	0.4	0.4	0.5	0.5
Manufacturing	0.6	0.6	0.7	0.6	0.6
Private households	38.5	37.7	37.0	38.6	38.1
Public authorities	0.2	0.3	0.3	0.4	0.5
Real estate and rentals	4.0	3.6	3.7	4.0	4.2
Retail and wholesale	1.2	1.3	1.2	1.2	1.1
Services	1.5	1.4	1.5	1.7	1.6
Transport, storage and communication	0.4	0.6	0.5	0.6	0.6
Other	0.2	0.2	0.2	0.2	0.2
Total domestic	50.1	49.0	48.6	50.6	50.3
Foreign					
Banks	3.6	4.8	3.9	3.9	3.4
Construction	0.3	0.2	0.2	0.2	0.2
Electricity, gas and water supply	0.2	0.2	0.2	0.2	0.2
Financial services	17.3	16.9	17.5	15.7	17.3
Hotels and restaurants	0.1	0.1	0.4	0.1	0.0
Manufacturing	0.3	0.5	0.5	0.5	0.6
Mining	0.2	0.2	0.3	0.3	0.5
Private households	20.7	20.3	20.1	19.5	19.3
Public authorities	0.1	0.4	0.7	0.8	0.4
Real estate and rentals	0.7	0.9	0.9	0.6	0.7
Retail and wholesale	0.7	0.8	0.8	0.7	0.6
Services	4.7	4.8	5.0	6.1	5.5
Transport, storage and communication	0.7	0.6	0.6	0.8	0.9
Other	0.2	0.2	0.2	0.1	0.1
Total foreign	49.9	51.0	51.4	49.4	49.7
Total gross	100.0	100.0	100.0	100.0	100.0

Loans and advances to banks and customers – mortgages (gross)

The table below provides more information about UBS AG's mortgage portfolio by client domicile and type of mortgage. Mortgages are included in the industry categories in the tables on the previous pages.

USD million	31.12.19	31.12.18	31.12.17	31.12.16	31.12.15
Mortgages					
Domestic	150,284	145,464	145,276	139,558	143,993
Foreign	27,970	24,771	22,092	19,573	18,856
Total gross mortgages	178,254	170,235	167,367	159,130	162,849
Mortgages					
Residential	158,333	150,999	148,167	139,711	141,375
Commercial	19,922	19,236	19,201	19,419	21,474
Total gross mortgages	178,254	170,235	167,367	159,130	162,849

Loans and advances to banks and customers – maturity profile (gross)

The table below provides the maturity profile of loans and advances to banks and customers. The maturity information presented does not consider any early redemption features.

USD million	Within 1 year	1 to 5 years	Over 5 years	Total
Domestic				
Banks	92	0	0	92
Mortgages	55,552	63,221	31,512	150,284
Other loans	14,287	4,633	1,584	20,503
Total domestic	69,931	67,853	33,096	170,880
Foreign				
Banks	12,107	179	6	12,292
Mortgages	3,971	5,714	18,285	27,970
Other loans	114,852	14,419	727	129,999
Total foreign	130,931	20,312	19,018	170,261
Total gross	200,862	88,165	52,114	341,141

As of 31 December 2019, total loans and advances to banks and customers granted at fixed and floating interest rates were as follows:

USD million	Within 1 year	1 to 5 years	Over 5 years	Total
Fixed-rate loans	135,638	64,498	37,695	237,830
Adjustable or floating-rate loans	65,224	23,667	14,420	103,311
Total	200,862	88,165	52,114	341,141

Non-performing loans

A claim is considered as non-performing when: (i) it is more than 90 days past due; (ii) it is subject to restructuring proceedings, where preferential conditions concerning interest rates, subordination, tenor, etc. have been granted in order to avoid default of the counterparty (forbearance); or (iii) the counterparty is subject to bankruptcy / enforced liquidation proceedings in any form, even if there is sufficient collateral to cover the due payment, or there is other evidence that payment obligations will not be fully met without recourse to collateral.

Refer to "Credit policies for distressed assets" in the "Risk management and control" section of this report for comprehensive information about UBS AG's distressed asset definitions, of which non-performing is a component. Also, refer to Note 1 and Note 23 in the "Consolidated financial statements" section of this report for more information about the various risk factors that are considered to be indicative of credit impairment.

The table below provides UBS AG's non-performing loans and advances to banks and customers.

USD million	31.12.19	31.12.18	31.12.17	31.12.16	31.12.15
Non-performing loans and advances to banks and customers:					
Domestic	1,471	1,548	1,374	1,497	1,172
Foreign	994	871	776	859	455
Total non-performing loans and advances to banks and customers	2,466	2,419	2,150	2,357	1,627

USD million	31.12.19	31.12.18	31.12.17	31.12.16	31.12.15
Gross interest income not collected on non-performing loans and advances to banks and customers:[1]					
Domestic	12	12	8	5	6
Foreign	14	36	25	22	7
Interest income included in Net profit for non-performing loans and advances to banks and customers:					
Domestic	20	20	32	36	25
Foreign	21	15	6	10	5

1 For credit-impaired financial assets, interest income is determined by applying the effective interest rate (EIR) to the amortized cost of the instrument, which represents the gross carrying amount adjusted for any loss allowance.

Forbearance (credit restructuring)

Under imminent payment default or where default has already occurred, UBS AG may grant concessions to borrowers in financial difficulties that it would otherwise not consider in the normal course of its business, such as preferential interest rates, extension of maturity, modifying the schedule of repayments, debt / equity swap, subordination, etc. When a forbearance measure takes place, each case is considered individually and the exposure is generally classified as defaulted. Forbearance classification will remain until the loan is collected or written off, non-preferential conditions are granted that supersede the preferential conditions or until the counterparty has recovered and the preferential conditions no longer exceed UBS AG's risk tolerance.

Contractual adjustments when there is no evidence of imminent payment default, or where changes to terms and conditions are within UBS AG's usual risk appetite, are not considered to be forborne.

Gross interest income not collected that relates to restructured non-performing loans and advances to banks and customers was not material to the results of operations in 2019, 2018, 2017, 2016 or 2015.

Cross-border outstandings

Cross-border outstandings consist of balances with central banks and other financial institutions, loans and advances to banks and customers and receivables from securities financing transactions with counterparties domiciled outside Switzerland. Guarantees and commitments are provided separately in the table below.

The following tables list those countries for which cross-border outstandings exceeded 0.75% of total IFRS assets at 31 December 2019, 2018 and 2017. As of 31 December 2019, there were no outstandings that exceeded 0.75% of total IFRS assets in any country currently facing debt restructuring or liquidity problems that UBS AG expects would materially affect the country's ability to service its obligations. Aggregate country risk exposures are monitored and reported on an ongoing basis. The internal risk view is not directly comparable to the cross-border outstandings in the table below due to different approaches to netting, differing trade populations and differing approach to allocation of exposures to countries. For more information about the country framework within risk control, refer to the "Risk management and control" section of this report.

	31.12.19					
USD million, except where indicated	Banks	Private sector	Public sector	Total outstandings	% of total assets	Guarantees and commitments[1]
USA	14,615	102,070	11,501	128,187	13.2	30,594
UK	1,828	47,357	4,095	53,280	5.5	4,457
Japan	5,109	2,855	8,283	16,247	1.7	20
Germany	595	3,235	6,374	10,203	1.0	1,036
Hong Kong	469	19,186	117	19,771	2.0	491
France	1,964	6,747	719	9,430	1.0	7,004

	31.12.18					
USD million, except where indicated	Banks	Private sector	Public sector	Total outstandings	% of total assets	Guarantees and commitments[1]
USA	20,142	95,274	16,135	131,551	13.7	21,686
UK	2,455	50,248	2,839	55,543	5.8	6,666
Japan	13,863	2,726	6,135	22,724	2.4	56
Germany	1,082	5,182	13,405	19,669	2.1	897
Hong Kong	1,132	15,388	125	16,645	1.7	984
France	2,404	5,503	393	8,299	0.9	5,402

	31.12.17					
USD million, except where indicated	Banks	Private sector	Public sector	Total outstandings	% of total assets	Guarantees and commitments[1]
USA	21,829	89,662	16,342	127,833	13.6	23,819
UK	2,342	54,550	6,563	63,454	6.8	12,457
Japan	1,725	8,354	9,148	19,228	2.0	82
Germany	1,515	8,488	9,345	19,348	2.1	1,375
France	2,516	5,841	5,142	13,500	1.4	6,002
Hong Kong	609	16,846	336	17,791	1.9	442
Singapore	169	4,518	3,036	7,724	0.8	522

1 Includes irrevocable forward starting transactions (reverse repurchase agreements and securities borrowing agreements).

Summary of movements in expected credit loss allowances and provisions

The following table provides more information about the movements in ECL allowances and provisions. Refer to "Credit risk" in the "Risk management and control" section of this report for more information.

USD million	31.12.19	31.12.18	31.12.17[1]	31.12.16[1]	31.12.15[1]
Balance at beginning of year	1,054[2]	1,146[2]	642	726	739
Domestic					
Write-offs					
Banks	(1)	0	0	0	0
Construction	(4)	(9)	(5)	(1)	(2)
Electricity, gas and water supply	(2)	(1)	0	0	(1)
Financial services	(1)	(4)	(3)	(3)	(3)
Hotels and restaurants	(7)	0	0	0	0
Manufacturing	(5)	(3)	(2)	(7)	(9)
Private households	(15)	(22)	(18)	(20)	(35)
Real estate and rentals	(2)	0	0	0	0
Retail and wholesale	(4)	(3)	(11)	(10)	(47)
Services	(3)	(4)	(11)	(3)	(3)
Transport, storage and communications	0	(4)	(3)	(4)	(9)
Total gross domestic write-offs	(44)	(51)	(53)	(49)	(110)
Foreign					
Write-offs					
Banks	(1)	0	0	0	(9)
Construction	0	0	(1)	0	0
Financial services	(4)	(4)	(24)	(4)	(3)
Manufacturing	(25)	(78)	0	(21)	0
Mining	(1)	(5)	(17)	(24)	(1)
Private households	(6)	(6)	(22)	(8)	(12)
Real estate and rentals	(2)	0	0	0	0
Retail and wholesale	(10)	(1)	0	0	(19)
Services	(10)	(10)	(4)	(16)	(10)
Transport, storage and communications	(2)	(36)	0	(20)	0
Other	(37)	(18)	0	0	0
Total gross foreign write-offs	(98)	(158)	(68)	(94)	(54)
Total usage of ECL provisions	0	0	0	0	0
Total write-offs / usage of ECL provisions	(142)	(210)	(121)	(143)	(164)
Recoveries					
Domestic	9	9	19	11	41
Foreign	3	0	1	11	7
Total recoveries	13	9	20	22	48
Total net write-offs / usage of ECL provisions	(130)	(201)	(101)	(121)	(116)
Increase / (decrease) in ECL allowances and provisions recognized in the income statement	78	118	128	31	118
Increase / (decrease) in ECL collective allowances recognized in the income statement	0	0	3	7	0
Foreign currency translation	8	(9)	21	(12)	(18)
Other	19	0	38	12	2
Balance at end of year[3]	1,029	1,054	731	642	726

1 Information is presented under IAS 39 requirements. 2 Includes stage 1 and stage 2 expected credit losses and additional stage 3 expected credit losses. Refer to "Note 1a Significant accounting policies" in the "Consolidated financial statements" section of this report for more information about IFRS 9. 3 Includes ECL allowances for receivables from securities financing transactions.

Allocation of the expected credit loss allowances and provisions[1]

The following table provides a breakdown of ECL allowances and provisions by industry sector and geographic location.

USD million	31.12.19	31.12.18	31.12.17	31.12.16	31.12.15
Domestic					
Banks	3	4	3	3	3
Chemicals	13	14	0	0	0
Construction	14	14	16	17	13
Electricity, gas and water supply	0	2	3	1	2
Financial services	40	36	23	12	17
Food and beverages	8	10	0	0	3
Hotels and restaurants	12	12	9	10	13
Manufacturing	86	75	58	59	77
Private households	150	180	46	45	47
Public authorities	1	1	0	0	0
Real estate and rentals	22	23	11	11	13
Retail and wholesale	92	94	76	66	78
Services	34	30	25	28	23
Transport, storage and communication	5	18	13	15	32
Other	2	2	0	0	0
Total domestic ECL-specific allowances	482	515	285	268	320
Foreign					
Banks	3	5	0	0	0
Chemicals	1	0	0	0	0
Construction	2	0	0	1	1
Financial services	54	49	42	63	90
Manufacturing	10	28	85	7	13
Mining	55	26	52	30	46
Private households	139	154	39	58	60
Public authorities	6	8	11	11	14
Real estate and rentals	25	38	24	2	1
Retail and wholesale	78	87	85	78	80
Services	22	23	23	17	19
Transport, storage and communication	35	3	39	40	40
Other	3	1	0	0	0
Total foreign ECL-specific allowances	433	422	399	309	365
ECL collective allowances	0	0	13	11	6
ECL provisions	114	116	34	54	35
Total ECL allowances and provisions	1,029	1,054	731	642	726

1 Prior-period 2017–2015 information is presented under IAS 39 requirements.

Alternative performance measures

Alternative performance measures

An alternative performance measure (APM) is a financial measure of historical or future financial performance, financial position or cash flows other than a financial measure defined or specified in the applicable recognized accounting standards or in other applicable regulations. We report a number of APMs, including adjusted results, in the discussion of the financial and operating performance of the Group, our business divisions and our Corporate Center. We use APMs to provide a fuller picture of our operating performance and to reflect management's view of the fundamental drivers of our business results. A definition of each APM, the method used to calculate it and the information content are presented in the table below. Our APMs may qualify as non-GAAP measures as defined by SEC regulations.

APM label	Definition	Information content
Adjusted results *(adjusted operating profit / (loss) before tax, adjusted operating income, adjusted operating expenses)*	Calculated by adjusting operating profit / (loss), operating income and operating expenses as reported in accordance with International Financial Reporting Standards (IFRS) for restructuring and litigation expenses, as well as other material profit or loss items that management believes are not representative of the underlying business performance.	These measures provide information about the financial and operating performance, excluding items that management believes are not representative of the underlying performance of our businesses.
Invested assets	Calculated as the sum of managed fund assets, managed institutional assets, discretionary and advisory wealth management portfolios, fiduciary deposits, time deposits, savings accounts, and wealth management securities or brokerage accounts.	This measure provides information about the volume of client assets managed by or deposited with UBS for investment purposes.
Recurring income – GWM	Calculated as total of net interest income and recurring net fee income.	This measure provides information about the amount of the recurring net interest and fee income.
Recurring net fee income – GWM, P&C	Calculated as total of fees for services provided on an ongoing basis, such as portfolio management fees, asset-based investment fund fees, custody fees and account-keeping fees, which are generated on client assets.	This measure provides information about the amount of recurring net fee income.
Transaction-based income – GWM, P&C	Calculated as total of the non-recurring portion of net fee and commission income, mainly composed of brokerage and transaction-based investment fund fees, as well as credit card fees and fees for payment transactions, together with other net income from financial instruments measured at fair value through profit or loss.	This measure provides information about the amount of the non-recurring portion of net fee and commission income.

APM label	Calculation	Information content
Adjusted cost / income ratio (%)	Calculated as adjusted operating expenses divided by adjusted operating income before credit loss expense or recovery.	This measure provides information about the efficiency of the business by comparing operating expenses with gross income, while excluding items that management believes are not representative of the underlying performance of the businesses.
Cost / income ratio (%)	Calculated as operating expenses divided by operating income before credit loss expense or recovery.	This measure provides information about the efficiency of the business by comparing operating expenses with gross income.
Gross margin on invested assets (bps) – GWM, AM	Calculated as operating income before credit loss expense or recovery (annualized as applicable) divided by average invested assets.	This measure provides information about the operating income before credit loss expense or recovery of the business in relation to invested assets.
Net interest margin (bps) – P&C	Calculated as net interest income (annualized as applicable) divided by average loans.	This measure provides information about the profitability of the business by calculating the difference between the price charged for lending and the cost of funding, relative to loan value.
Net margin on invested assets (bps) – GWM, AM	Calculated as operating profit before tax (annualized as applicable) divided by average invested assets.	This measure provides information about the operating profit before tax of the business in relation to invested assets.
Net new business volume growth (%) – P&C	Calculated as total net inflows and outflows of client assets and loans during the period (annualized as applicable) divided by total business volume / client assets at the beginning of the period.	This measure provides information about the growth of the business volume as a result of net new business volume flows during a specific period.
Net profit growth (%)	Calculated as change in net profit attributable to shareholders from continuing operations between current and comparison periods divided by net profit attributable to shareholders from continuing operations of comparison period.	This measure provides information about profit growth in comparison with the prior period.
Recurring income as a % of income – GWM	Calculated as net interest income and recurring net fee income divided by operating income before credit loss expense or recovery.	This measure provides information about the proportion of recurring income in operating income.
Return on common equity tier 1 capital (%)	Calculated as net profit attributable to shareholders divided by average common equity tier 1 capital.	This measure provides information about the profitability of the business in relation to common equity tier 1 capital.
Return on equity (%)	Calculated as net profit attributable to shareholders divided by average equity attributable to shareholders.	This measure provides information about the profitability of the business in relation to equity.
Return on leverage ratio denominator, gross (%)	Calculated as operating income before credit loss expense or recovery divided by average leverage ratio denominator.	This measure provides information about the revenues of the business in relation to leverage ratio denominator.
Return on risk-weighted assets, gross (%)	Calculated as operating income before credit loss expense or recovery divided by average risk-weighted assets.	This measure provides information about the revenues of the business in relation to risk-weighted assets.
Return on tangible equity (%)	Calculated as net profit attributable to shareholders divided by average equity attributable to shareholders less average goodwill and intangible assets.[1]	This measure provides information about the profitability of the business in relation to tangible equity.
Total book value per share (USD and CHF[2])	Calculated as equity attributable to shareholders divided by the number of shares outstanding.	This measure provides information about net assets on a per-share basis.
Total tangible book value per share (USD and CHF[2])	Calculated as equity attributable to shareholders less goodwill and intangible assets divided by the number of shares outstanding.	This measure provides information about tangible net assets on a per-share basis.

1 Effective 1 January 2019, the definition of the numerator for return on tangible equity has been revised to align it with the numerators for return on equity and return on common equity tier 1 capital; i.e., we no longer adjust for amortization and impairment of goodwill and intangible assets. Prior periods have been restated.

2 Total book value per share and total tangible book value per share in Swiss francs are calculated based on a translation of equity under our US dollar presentation currency.

Abbreviations frequently used in our financial reports

A

ABS asset-backed securities
AEI automatic exchange of information
AGM Annual General Meeting of shareholders
A-IRB advanced internal ratings-based
AIV alternative investment vehicle
ALCO Asset and Liability Committee
AMA advanced measurement approach
AML anti-money laundering
AoA Articles of Association
APAC Asia Pacific
APM alternative performance measure
ARR alternative reference rate
ARS auction rate securities
ASF available stable funding
AT1 additional tier 1
AuM assets under management

B

BCBS Basel Committee on Banking Supervision
BEAT base erosion and anti-abuse tax
BIS Bank for International Settlements
BoD Board of Directors
BVG Swiss occupational pension plan

C

CAO Capital Adequacy Ordinance
CCAR Comprehensive Capital Analysis and Review
CCF credit conversion factor
CCP central counterparty
CCR counterparty credit risk
CCRC Corporate Culture and Responsibility Committee
CCyB countercyclical buffer
CDO collateralized debt obligation
CDS credit default swap
CEA Commodity Exchange Act
CEM current exposure method
CEO Chief Executive Officer
CET1 common equity tier 1
CFO Chief Financial Officer
CFTC US Commodity Futures Trading Commission
CHF Swiss franc
CIC Corporate & Institutional Clients
CIO Chief Investment Office
CLS Continuous Linked Settlement
CMBS commercial mortgage-backed security
C&ORC Compliance & Operational Risk Control
CRD IV EU Capital Requirements Directive of 2013
CRM credit risk mitigation (credit risk) or comprehensive risk measure (market risk)
CST combined stress test
CVA credit valuation adjustment

D

DBO defined benefit obligation
DCCP Deferred Contingent Capital Plan
DJSI Dow Jones Sustainability Indices
DM discount margin
DOJ US Department of Justice
D-SIB domestic systemically important bank
DTA deferred tax asset
DVA debit valuation adjustment

E

EAD exposure at default
EB Executive Board
EBA European Banking Authority
EC European Commission
ECB European Central Bank
ECL expected credit loss
EIR effective interest rate
EL expected loss
EMEA Europe, Middle East and Africa
EOP Equity Ownership Plan
EPE expected positive exposure
EPS earnings per share
ESG environmental, social and governance
ETD exchange-traded derivatives
ETF exchange-traded fund
EU European Union
EUR euro
EURIBOR Euro Interbank Offered Rate
EVE economic value of equity
EY Ernst & Young (Ltd)

F

FA financial advisor
FCA UK Financial Conduct Authority
FCT foreign currency translation
FINMA Swiss Financial Market Supervisory Authority
FMIA Swiss Financial Market Infrastructure Act

Abbreviations frequently used in our financial reports (continued)

FSB	Financial Stability Board
FTA	Swiss Federal Tax Administration
FVA	funding valuation adjustment
FVOCI	fair value through other comprehensive income
FVTPL	fair value through profit or loss
FX	foreign exchange
G	
GAAP	generally accepted accounting principles
GBP	pound sterling
GDP	gross domestic product
GEB	Group Executive Board
GIA	Group Internal Audit
GIIPS	Greece, Italy, Ireland, Portugal and Spain
GMD	Group Managing Director
GRI	Global Reporting Initiative
GSE	government sponsored entities
G-SIB	global systemically important bank
H	
HQLA	high-quality liquid assets
HR	human resources
I	
IAA	internal assessment approach
IAS	International Accounting Standards
IASB	International Accounting Standards Board
IBOR	interbank offered rate
IFRIC	International Financial Reporting Interpretations Committee
IFRS	International Financial Reporting Standards
IHC	intermediate holding company
IMA	internal models approach
IMM	internal model method
IRB	internal ratings-based
IRC	incremental risk charge
IRRBB	interest rate risk in the banking book
ISDA	International Swaps and Derivatives Association
K	
KRT	Key Risk Taker
L	
LAS	liquidity-adjusted stress
LCR	liquidity coverage ratio
LGD	loss given default
LIBOR	London Interbank Offered Rate
LLC	limited liability company
LRD	leverage ratio denominator
LTIP	Long-Term Incentive Plan
LTV	loan-to-value
M	
M&A	mergers and acquisitions
MiFID II	Markets in Financial Instruments Directive II
MRT	Material Risk Taker
N	
NAV	net asset value
NCL	Non-core and Legacy Portfolio
NII	net interest income
NRV	negative replacement value
NSFR	net stable funding ratio
NYSE	New York Stock Exchange
O	
OCA	own credit adjustment
OCI	other comprehensive income
OTC	over-the-counter
P	
PD	probability of default
PFE	potential future exposure
PIT	point in time
P&L	profit or loss
POCI	purchased or originated credit-impaired
PRA	UK Prudential Regulation Authority
PRV	positive replacement value
Q	
QRRE	qualifying revolving retail exposures
R	
RBA	role-based allowances
RBC	risk-based capital
RbM	risk-based monitoring
RMBS	residential mortgage-backed securities
RniV	risks not in VaR
RoAE	return on attributed equity
RoCET1	return on CET1 capital
RoTE	return on tangible equity
RoU	right-of-use
RV	replacement value
RW	risk weight
RWA	risk-weighted assets

Abbreviations frequently used in our financial reports (continued)

S

SA	standardized approach
SA-CCR	standardized approach for counterparty credit risk
SAR	stock appreciation right or Special Administrative Region
SBC	Swiss Bank Corporation
SDG	Sustainable Development Goal
SE	structured entity
SEC	US Securities and Exchange Commission
SEEOP	Senior Executive Equity Ownership Plan
SFT	securities financing transaction
SI	sustainable investing
SICR	significant increase in credit risk
SIX	SIX Swiss Exchange
SME	small and medium-sized corporate clients
SMF	Senior Management Function
SNB	Swiss National Bank
SPPI	solely payments of principal and interest
SRB	systemically relevant bank
SRM	specific risk measure
SVaR	stressed value-at-risk

T

TBTF	too big to fail
TCJA	US Tax Cuts and Jobs Act
TLAC	total loss-absorbing capacity
TTC	through-the-cycle

U

UoM	units of measure
USD	US dollar

V

VaR	value-at-risk
VAT	value added tax

This is a general list of the abbreviations frequently used in our financial reporting. Not all of the listed abbreviations may appear in this particular report.

Information sources

Reporting publications

Annual publications: *Annual Report (SAP no. 80531):* Published in English, this single-volume report provides descriptions of: our Group strategy and performance; the strategy and performance of the business divisions and Corporate Center; risk, treasury and capital management; corporate governance, corporate responsibility and our compensation framework, including information about compensation for the Board of Directors and the Group Executive Board members; and financial information, including the financial statements. *Geschäftsbericht (SAP no. 80531):* This publication provides the translation into German of our Annual Report. *Annual Review (SAP no. 80530):* This booklet contains key information about our strategy and performance, with a focus on corporate responsibility at UBS. It is published in English, German, French and Italian. *Compensation Report (SAP no. 82307):* This report discusses our compensation framework and provides information about compensation for the Board of Directors and the Group Executive Board members. It is available in English and German.

Quarterly publications: The quarterly financial report provides an update on our strategy and performance for the respective quarter. It is available in English.

How to order publications: The annual and quarterly publications are available in .pdf format at *www.ubs.com/investors*, in the "UBS Group AG and UBS AG financial information" section, and printed copies can be requested from UBS free of charge. For annual publications, refer to the "Investor services" section at *www.ubs.com/investors.* Alternatively, they can be ordered by quoting the SAP number and the language preference, where applicable, from UBS AG, F4UK–AUL, P.O. Box, CH-8098 Zurich, Switzerland.

Other information

Website: The "Investor Relations" website at *www.ubs.com/investors* provides the following information about UBS: news releases; financial information, including results-related filings with the US Securities and Exchange Commission; information for shareholders, including UBS share price charts as well as data and dividend information, and for bondholders; the UBS corporate calendar; and presentations by management for investors and financial analysts. Information on the internet is available in English, with some information also available in German.

Results presentations: Our quarterly results presentations are webcast live. A playback of most presentations is downloadable at *www.ubs.com/presentations*.

Messaging service: Email alerts to news about UBS can be subscribed for under "UBS news alert" at *www.ubs.com/global/en/investor-relations/contact/investor-services.html*. Messages are sent in English, German, French or Italian, with an option to select theme preferences for such alerts.

Form 20-F and other submissions to the US Securities and Exchange Commission: We file periodic reports and submit other information about UBS to the US Securities and Exchange Commission (SEC). Principal among these filings is the annual report on Form 20-F, filed pursuant to the US Securities Exchange Act of 1934. The filing of Form 20-F is structured as a wrap-around document. Most sections of the filing can be satisfied by referring to the combined UBS Group AG and UBS AG annual report. However, there is a small amount of additional information in Form 20-F that is not presented elsewhere and is particularly targeted at readers in the US. Readers are encouraged to refer to this additional disclosure. Any document that we file with the SEC is available on the SEC's website *www.sec.gov*. Refer to *www.ubs.com/investors* for more information.

Cautionary Statement Regarding Forward-Looking Statements | This report contains statements that constitute "forward-looking statements," including but not limited to management's outlook for UBS's financial performance and statements relating to the anticipated effect of transactions and strategic initiatives on UBS's business and future development. While these forward-looking statements represent UBS's judgments and expectations concerning the matters described, a number of risks, uncertainties and other important factors could cause actual developments and results to differ materially from UBS's expectations. These factors include, but are not limited to: (i) the degree to which UBS is successful in the ongoing execution of its strategic plans, including its cost reduction and efficiency initiatives and its ability to manage its levels of risk-weighted assets (RWA) and leverage ratio denominator (LRD), including to counteract regulatory-driven increases, liquidity coverage ratio and other financial resources, and the degree to which UBS is successful in implementing changes to its businesses to meet changing market, regulatory and other conditions; (ii) the continuing low or negative interest rate environment in Switzerland and other jurisdictions, developments in the macroeconomic climate and in the markets in which UBS operates or to which it is exposed, including movements in securities prices or liquidity, credit spreads, and currency exchange rates, and the effects of economic conditions, market developments, geopolitical tensions, and changes to national trade policies on the financial position or creditworthiness of UBS's clients and counterparties as well as on client sentiment and levels of activity; (iii) changes in the availability of capital and funding, including any changes in UBS's credit spreads and ratings, as well as availability and cost of funding to meet requirements for debt eligible for total loss-absorbing capacity (TLAC); (iv) changes in or the implementation of financial legislation, including Interest Rate Benchmark Reform, and regulation in Switzerland, the US, the UK, the European Union and other financial centers that have imposed, or resulted in, or may do so in the future, more stringent or entity-specific capital, TLAC, leverage ratio, net stable funding ratio, liquidity and funding requirements, heightened operational resilience requirements, incremental tax requirements, additional levies, limitations on permitted activities, constraints on remuneration, constraints on transfers of capital and liquidity and sharing of operational costs across the Group or other measures, and the effect these will or would have on UBS's business activities; (v) the degree to which UBS is successful in implementing further changes to its legal structure to improve its resolvability and meet related regulatory requirements and the potential need to make further changes to the legal structure or booking model of the UBS Group in response to legal and regulatory requirements, proposals in Switzerland and other jurisdictions for mandatory structural reform of banks or systemically important institutions or to other external developments, and the extent to which such changes will have the intended effects; (vi) UBS's ability to maintain and improve its systems and controls for the detection and prevention of money laundering and compliance with sanctions to meet evolving regulatory requirements and expectations, in particular in the US; (vii) the uncertainty arising from the UK's exit from the EU; (viii) changes in UBS's competitive position, including whether differences in regulatory capital and other requirements among the major financial centers will adversely affect UBS's ability to compete in certain lines of business; (ix) changes in the standards of conduct applicable to our businesses that may result from new regulations or new enforcement of existing standards, including recently enacted and proposed measures to impose new and enhanced duties when interacting with customers and in the execution and handling of customer transactions; (x) the liability to which UBS may be exposed, or possible constraints or sanctions that regulatory authorities might impose on UBS, due to litigation, contractual claims and regulatory investigations, including the potential for disqualification from certain businesses, potentially large fines or monetary penalties, or the loss of licenses or privileges as a result of regulatory or other governmental sanctions, as well as the effect that litigation, regulatory and similar matters have on the operational risk component of our RWA as well as the amount of capital available for return to shareholders; (xi) the effects on UBS's cross-border banking business of tax or regulatory developments and of possible changes in UBS's policies and practices relating to this business; (xii) UBS's ability to retain and attract the employees necessary to generate revenues and to manage, support and control its businesses, which may be affected by competitive factors; (xiii) changes in accounting or tax standards or policies, and determinations or interpretations affecting the recognition of gain or loss, the valuation of goodwill, the recognition of deferred tax assets and other matters; (xiv) UBS's ability to implement new technologies and business methods, including digital services and technologies, and ability to successfully compete with both existing and new financial service providers, some of which may not be regulated to the same extent; (xv) limitations on the effectiveness of UBS's internal processes for risk management, risk control, measurement and modeling, and of financial models generally; (xvi) the occurrence of operational failures, such as fraud, misconduct, unauthorized trading, financial crime, cyberattacks or other cybersecurity disruptions, and systems failures; (xvii) restrictions on the ability of UBS Group AG to make payments or distributions, including due to restrictions on the ability of its subsidiaries to make loans or distributions, directly or indirectly, or, in the case of financial difficulties, due to the exercise by FINMA or the regulators of UBS's operations in other countries of their broad statutory powers in relation to protective measures, restructuring and liquidation proceedings; (xviii) the degree to which changes in regulation, capital or legal structure, financial results or other factors may affect UBS's ability to maintain its stated capital return objective; and (xix) the effect that these or other factors or unanticipated events may have on our reputation and the additional consequences that this may have on our business and performance. The sequence in which the factors above are presented is not indicative of their likelihood of occurrence or the potential magnitude of their consequences. Our business and financial performance could be affected by other factors identified in our past and future filings and reports, including those filed with the SEC. More detailed information about those factors is set forth in documents furnished by UBS and filings made by UBS with the SEC, including UBS's Annual Report on Form 20-F for the year ended 31 December 2019. UBS is not under any obligation to (and expressly disclaims any obligation to) update or alter its forward-looking statements, whether as a result of new information, future events, or otherwise.

Rounding | Numbers presented throughout this report may not add up precisely to the totals provided in the tables and text. Percentages, percent changes, and adjusted results are calculated on the basis of unrounded figures. Information about absolute changes between reporting periods, which is provided in text and which can be derived from figures displayed in the tables, is calculated on a rounded basis.

Tables | Within tables, blank fields generally indicate that the field is not applicable or not meaningful, or that information is not available as of the relevant date or for the relevant period. Zero values generally indicate that the respective figure is zero on an actual or rounded basis. Percentage changes are presented as a mathematical calculation of the change between periods.

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Exhibit 1.1

UBS

Articles of Association UBS Group AG (UBS Group SA) (UBS Group Inc.)

5 March 2019

The present text is a translation of the original German Articles of Association ("Statuten") which constitute the definitive text and are binding in law.

In these Articles of Association, references to the generic masculine equally apply to both sexes.

Contents

Section 1
Name, registered office, business object and duration of the Corporation

Article 1

Name and registered office

A corporation limited by shares under the name of UBS Group AG / UBS Group SA / UBS Group Inc. is established with its registered office in Zurich.

Article 2

Purpose

1 The purpose of the Corporation is to acquire, hold, manage and sell direct and indirect participations in enterprises of any kind, in particular in the area of banking, financial, advisory, trading and service activities in Switzerland and abroad.
2 The Corporation may establish enterprises of any kind in Switzerland and abroad, hold equity interests in these enterprises, and conduct their management.
3 The Corporation is authorized to acquire, mortgage and sell real estate and building rights in Switzerland and abroad.
4 The Corporation may provide loans, guarantees and other kinds of financing and security for Group companies and borrow and invest money on the money and capital markets.

Article 3

Duration

The duration of the Corporation shall not be limited by time.

Section 2
Share capital

Article 4

Share capital

[1] The share capital of the Corporation is CHF 385,563,474.90, divided into 3,855,634,749 registered shares with a par value of CHF 0.10 each. The share capital is fully paid up.
[2] Registered shares may be converted into bearer shares and bearer shares into registered shares by resolution of the General Meeting.

Article 4a

Conditional capital

[1] The share capital may be increased by a maximum of CHF 12,512,647.60 through the issuance of a maximum of 125,126,476 fully paid registered shares with a par value of CHF 0.10 each upon exercise of employee options issued to employees and members of the management and of the Board of Directors of the Corporation and its subsidiaries. The preemptive rights and the advance subscription rights of the shareholders shall be excluded. The issuance of these options to employees and members of the management and of the Board of Directors of the Corporation and its subsidiaries will take place in accordance with the plan rules issued by the Board of Directors and its compensation committee. The acquisition of shares through the exercise of option rights as well as every subsequent transfer of these shares shall be subject to the registration requirements set forth in Article 5 of the Articles of Association.
[2] The share capital may be increased in an amount not to exceed CHF 38,000,000 by the issuance of up to 380,000,000 fully paid registered shares with a nominal value of CHF 0.10 each through the voluntary or mandatory exercise of conversion rights and/or warrants granted in connection with the issuance of bonds or similar financial instruments by the Corporation or one of its Group companies on national or international capital markets. The preemptive rights of the shareholders shall be excluded. The then current owners of conversion rights and/or warrants shall be entitled to subscribe for the new shares. The condi-

tions of the conversion rights and/or warrants shall be determined by the Board of Directors.
The acquisition of shares through voluntary or mandatory exercise of conversion rights and/or warrants, as well as each subsequent transfer of the shares, shall be subject to the registration requirements set forth in Article 5 of the Articles of Association.
In connection with the issuance of convertible bonds or bonds with warrants or similar financial instruments, the Board of Directors shall be authorized to restrict or exclude the advance subscription rights of shareholders if such instruments are issued (i) on national or international capital markets or (ii) to one or more financial investors. If the advance subscription rights are restricted or excluded by the Board of Directors, the following shall apply: the issuance of such instrument shall be made at prevailing market conditions, and the new shares shall be issued pursuant to the relevant conditions of that financial instrument. Conversion rights may be exercised during a maximum 10-year period, and warrants may be exercised during a maximum 7-year period, in each case from the date of the respective issuance. The issuance of the new shares upon voluntary or mandatory exercise of conversion rights and/or warrants shall be made at conditions taking into account the market price of the shares and/or comparable instruments with a market price at the time of the issuance of the relevant financial instrument.

Article 5

Share register and nominees

[1] A share register is maintained for the registered shares, in which owners' and usufructuaries' family and given names are entered, with their complete address and nationality (or registered office for legal entities). Shares held in joint accounts may be registered jointly with voting rights, if all registered owners of the shares provide the declaration requested in paragraph 3 below.

[2] If the mailing address of a shareholder changes, the new address must be communicated to the Corporation. As long as this has not been done, all written communications will be sent to the address entered in the share register, this being valid according to the requirements of the law.
[3] Those who acquire registered shares shall be entered in the share register as shareholders with voting rights if they expressly declare that they acquired these registered shares in their own names and for their own account. If the party acquiring the shares is not prepared to provide such a declaration, the Board of Directors may refuse to allow the shares to be entered with voting rights.
[4] The restriction on registration under paragraph 3 above also applies to shares acquired by the exercise of preemptive, option or conversion rights.
[5] The Board of Directors is authorized, after hearing the position of the registered shareholder or nominee affected, to strike the entry of a shareholder with voting rights from the share register retroactively with effect to the date of the entry, if it was obtained under false pretenses. The party affected must be informed of the action immediately.
[6] The Board of Directors formulates general principles relating to the registration of fiduciaries/nominees and issues the necessary regulations to ensure compliance with the above provisions.

Article 6

Form of shares

[1] Registered shares of the Corporation will be, subject to paragraph 2, in the form of uncertificated securities (in the sense of the Swiss Code of Obligations) and intermediary-held securities (in the sense of the Swiss Federal Intermediated Securities Act).
[2] Following his registration in the share register, the shareholder may request the Corporation to issue a written statement in respect of his registered shares at any time; however, he has no entitlement to the printing and delivery of share certificates. In contrast, the Corporation may print

and deliver share certificates for registered shares (single certificates, certificates representing multiples of shares or global certificates) at any time. It may withdraw registered shares issued as intermediary-held securities from the respective custody system. With the consent of the shareholder, the Corporation may cancel issued certificates which are returned to it without replacement.

Article 7

Exercise of rights

1 The Corporation recognizes only one representative per share.

2 Voting rights and associated rights may only be exercised in relation to the Corporation by a party entered in the share register as having the right to vote.

Section 3
Corporate bodies

A. General Meeting

Article 8

Authority

The General Meeting is the Corporation's supreme corporate body.

Article 9

Types of General Meetings
a. Annual General Meeting

The Annual General Meeting takes place every year within six months after the close of the financial year; the annual report, the compensation report and the reports of the Auditors must be available for inspection by shareholders at the Corporation's registered office at least twenty days before the meeting.

Article 10

b. Extraordinary General Meetings

1 Extraordinary General Meetings are convened whenever the Board of Directors or the Auditors consider it necessary.
2 Such a meeting must also be convened upon a resolution of the General Meeting or a written request from one or more shareholders representing together at least one tenth of the share capital, specifying the items to be included on the agenda and the proposals to be put forward.

Article 11

Convening

1 The General Meeting shall be called by the Board of Directors or, if need be, by the Auditors at least twenty days before the meeting is to take place. The meeting is called by publishing a single notice in the publication of record designated by the Corporation. An invitation will be sent to all registered shareholders.
2 The notice to convene the General Meeting shall specify the agenda with the proposals of the Board of Directors and proposals from shareholders and, in the event of elections, the names of the proposed candidates.

Article 12

Placing of items on the agenda

[1] Shareholders representing shares with an aggregate par value of CHF 62,500 may submit proposals for matters to be placed on the agenda for consideration by the General Meeting, provided that their proposals are submitted in writing within the deadline published by the Corporation and include the actual motion(s) to be put forward.
[2] No resolutions may be passed concerning matters which have not been duly placed on the agenda, except on a motion put forward at the General Meeting to call an Extraordinary General Meeting or a motion for a special audit to be carried out.

Article 13

Chairmanship, tellers, minutes

[1] The Chairman of the Board of Directors or, if the Chairman cannot attend, a Vice Chairman or another member designated by the Board of Directors, shall preside over the General Meeting and appoint a secretary and the necessary tellers.
[2] Minutes are kept of the proceedings and must be signed by the presiding chair of the meeting and the secretary.

Article 14

Shareholder proxies

[1] The Board of Directors issues procedural rules for participation and representation of shareholders at the General Meeting, including the requirements as to powers of attorney.
[2] A shareholder may only be represented at the General Meeting by his legal representative, under a written power of attorney by another shareholder eligible to vote or, under a written or electronic power of attorney, by the Independent Proxy.
[3] The presiding chair of the meeting decides whether to recognize the power of attorney.

Article 15

Independent Proxy

[1] The Independent Proxy shall be elected by the General Meeting for a term of office expiring after completion of the next Annual General Meeting.
[2] Re-election is permitted.
[3] If the Corporation does not have an Independent Proxy, the Board of Directors shall appoint the Independent Proxy for the next General Meeting.

Article 16

Voting right

Each share conveys the right to cast one vote.

Article 17

Resolutions, elections

[1] Resolutions and elections are decided at the General Meeting by an absolute majority of the votes cast, excluding blank and invalid ballots, subject to these Articles of Association and the compulsory provisions of the law.
[2] A resolution to change Article 19 of the Articles of Association, to remove one fourth or more of the members of the Board of Directors or to delete or modify Article 17 paragraph 2 of the Articles of Association must receive at least two thirds of the votes represented.
[3] The presiding chair of the meeting shall decide whether voting on resolutions and elections be conducted electronically, by a show of hands or by a written ballot. Shareholders representing at least 3% of the votes represented may always request that a vote or election take place electronically or by a written ballot.
[4] In the case of a written ballot, the presiding chair of the meeting may rule that only the ballots of those shareholders shall be collected who choose to abstain or to cast a negative vote, and that all other shares represented at the General Meeting at the time of the vote shall be counted in favor, in order to expedite the counting of the votes.

[5] The presiding chair of the meeting may order that a resolution or election be repeated if, in his view, the results of the vote are in doubt. In this case, the preceding resolution or election shall be deemed to have not occurred.

Article 18

Powers

The General Meeting has the following powers:

a) To establish and amend the Articles of Association
b) To elect the members and the Chairman of the Board of Directors and the members of the compensation committee
c) To elect the Auditors
d) To elect the Independent Proxy
e) To approve the management report and the Group financial statements
f) To approve the financial statements and to decide upon the appropriation of the net profit shown in the balance sheet
g) To approve the compensation for the Board of Directors and the Group Executive Board pursuant to Article 43 of the Articles of Association
h) To give the members of the Board of Directors and of the Group Executive Board a discharge
i) To take decisions on all matters reserved to the General Meeting by law or by the Articles of Association, or which are placed before it by the Board of Directors.

B. Board of Directors

Article 19

Number of Board members

The Board of Directors shall consist of at least six and no more than twelve members.

Article 20

Term of office

1 The term of office for members of the Board of Directors and its Chairman expires after completion of the next Annual General Meeting.
2 Members whose term of office has expired are immediately eligible for re-election.

Article 21

Organization

1 Except for the election of the Chairman and the members of the compensation committee by the General Meeting, the Board of Directors shall constitute itself. It shall elect at least one Vice Chairman and a Senior Independent Director from among its members.
2 The Board of Directors shall appoint its secretary, who need not be a member of the Board.
3 If the office of the Chairman is vacant, the Board of Directors shall appoint a new Chairman from among its members for the remaining term of office.

Article 22

Convening, participation

1 The Chairman shall convene the Board of Directors as often as business requires, but at least six times a year.
2 The Board of Directors shall also be convened if one of its members or the Group Chief Executive Officer submits a written request to the Chairman to hold such a meeting.

Article 23

Decisions

[1] Decisions of the Board of Directors are taken by an absolute majority of the votes cast. In case of a tie, the presiding chair of the meeting shall cast the deciding vote.
[2] The number of members who must be present to constitute a quorum and the modalities for the passing of resolutions shall be laid down by the Board of Directors in the Organization Regulations. No such quorum is required for decisions confirming and amending resolutions relating to capital increases.

Article 24

Duties and powers

[1] The Board of Directors has ultimate responsibility for the management of the Corporation and the supervision and control of its executive management.
[2] The Board of Directors may also take decisions on all matters which are not expressly reserved to the General Meeting or to another corporate body by law or by the Articles of Association.

Article 25

Ultimate responsibility for the management of the Corporation

The ultimate responsibility for the management of the Corporation comprises in particular:

a) Preparing of and deciding on proposals to be placed before the General Meeting
b) Issuing the regulations necessary for the conduct of business and for the delineation of authority, in particular the Organization Regulations and the regulations governing the Group Internal Audit
c) Laying down the principles for the accounting, financial and risk controls and financial planning, in particular the allocation of equity resources and risk capital for business operations
d) Decisions on Group strategy and other matters reserved to the Board of Directors under the Organization Regulations

e) Appointment and removal of (i) the Group Chief Executive Officer, (ii) such other members of the Group Executive Board as the Organization Regulations require to be appointed by the Board of Directors and (iii) the Head of Group Internal Audit
f) Decisions on increasing the share capital, to the extent this falls within the authority of the Board of Directors (Article 651 paragraph 4 of the Swiss Code of Obligations), on the report concerning an increase in capital (Article 652e of the Swiss Code of Obligations) and on the ascertainment of capital increases and the corresponding amendments to the Articles of Association.

Article 26

Supervision, control

Supervision and control of the business management comprises in particular the following:
a) Review of the management report, Group and parent company financial statements, the compensation report as well as quarterly financial statements
b) Acceptance of regular reports covering the course of business and the position of the Group, the status and development of country, counterparty and market risks and the extent to which equity and risk capital are tied up due to business operations
c) Consideration of reports prepared by the Auditors.

Article 27

Delegation, Organization Regulations

The Board of Directors may delegate part of its authority to one or more of its members or to third parties, subject to Articles 25 and 26 of the Articles of Association. The allocation of authority and functions shall be defined in the Organization Regulations.

Article 28

Number of members, term of office and organization of the compensation committee

[1] The compensation committee shall consist of at least three members of the Board of Directors.
[2] The compensation committee shall organize itself within the limits of the law and of the Articles of Association. The Board of Directors shall appoint a chairperson.
[3] If there are vacancies on the compensation committee, the Board of Directors shall appoint the missing members from among its members for the remaining term of office.

Article 29

Duties and powers of the compensation committee

[1] The compensation committee supports the Board of Directors in establishing and reviewing the Corporation's compensation strategy and guidelines and in articulating the performance criteria relevant for determining individual total compensation for each member of the Group Executive Board. The compensation committee also prepares the proposals to the General Meeting regarding the compensation of the Board of Directors and of the Group Executive Board and may submit proposals to the Board of Directors on other compensation-related issues.
[2] The Board of Directors shall determine, and codify in the Organization Regulations, for which functions of the Group Executive Board the compensation committee shall establish and review financial and non-financial performance targets and assess the performance against these targets to determine compensation recommendations for the members of the Group Executive Board. In accordance with the Organization Regulations, these recommendations shall be presented to the Board of Directors for review or approval, subject to the approval by the General Meeting as set out in Article 43 of the Articles of Association. The compensation committee shall, in accordance with the Organization Regulations, also submit a proposal for the compensation for the members of the Board of Directors to the Board of Directors, subject to the approval by the

General Meeting as set out in Article 43 of the Articles of Association.
[3] The Board of Directors may delegate further tasks to the compensation committee which shall be determined in the Organization Regulations approved by the Board of Directors.

Article 30

Signatures

The due and valid representation of the Corporation by members of the Board of Directors or further persons shall be determined in the Organization Regulations and a specific directive.

Article 31

Mandates

[1] No member of the Board of Directors may hold more than four additional mandates in listed companies and five additional mandates in non-listed companies.
[2] The following mandates are not subject to the limitations set forth in paragraph 1:

a) Mandates in companies which are controlled by the Corporation or which control the Corporation
b) Mandates held at the request of the Corporation or companies controlled by it. No member of the Board of Directors shall hold more than ten such mandates
c) Mandates in associations, charitable organizations, foundations, trusts and employee welfare foundations. No member of the Board of Directors shall hold more than ten such mandates.

[3] Mandates shall mean mandates in the supreme governing body of a legal entity which is required to be registered in the commercial register or a comparable foreign register. Mandates in different legal entities which are under joint control are deemed one mandate.

Article 32

Terms of agreements relating to compensation

The Corporation or companies controlled by it may enter into agreements for a fixed term with members of the Board of Directors relating to their compensation. Duration and termination shall comply with the term of office and the law.

Article 33

Loans

Loans to the independent members of the Board of Directors shall be made in accordance with the customary business and market conditions. Loans to the non-independent members of the Board of Directors shall be made in the ordinary course of business on substantially the same terms as those granted to employees of the Corporation or companies controlled by it. The total amount of such loans shall not exceed CHF 20,000,000 per member.

C. Group Executive Board

Article 34

Organization

The Group Executive Board is composed of the Group Chief Executive Officer and at least three other members as further set forth in the Organization Regulations.

Article 35

Functions, authorities

[1] The Group Executive Board acting under the leadership of the Group Chief Executive Officer is responsible for the management of the Group. It is the supreme executive body as defined by the Swiss Federal Law on Banks and Savings Banks. It implements the Group strategy decided by the Board of Directors and ensures the execution of the decisions of the Board of Directors. It is responsible for the Group's results.

[2] The responsibilities and authorities of the Group Executive Board and other management units designated by the Board of Directors are set forth in the Organization Regulations.

Article 36

Mandates

[1] No member of the Group Executive Board may hold more than one additional mandate in a listed company and five additional mandates in non-listed companies, subject to approval by the Board of Directors.

[2] The following mandates are not subject to the limitations set forth in paragraph 1:

a) Mandates in companies which are controlled by the Corporation or which control the Corporation
b) Mandates held at the request of the Corporation or companies controlled by it. No member of the Group Executive Board shall hold more than ten such mandates
c) Mandates in associations, charitable organizations, foundations, trusts and employee welfare foundations. No member of the Group Executive Board shall hold more than eight such mandates.

[3] Mandates shall mean mandates in the supreme governing body of a legal entity which is required to be registered in the commercial register or a comparable foreign register. Mandates in different legal entities which are under joint control are deemed one mandate.

Article 37

Employment contract terms

[1] The term of employment contracts with the members of the Group Executive Board may be unlimited with a notice period of up to twelve months or may be fixed with a term of up to one year.
[2] The Corporation or companies controlled by it may enter into non-compete agreements with the members of the Group Executive Board for the time after termination of the employment agreement for a duration of up to one year. The respective consideration shall not exceed the total compensation paid or granted to such member of the Group Executive Board for the last full financial year prior to termination.

Article 38

Loans

Loans to the members of the Group Executive Board shall be made in the ordinary course of business on substantially the same terms as those granted to employees of the Corporation or companies controlled by it. The total amount of such loans shall not exceed CHF 20,000,000 per member.

D. Auditors

Article 39

Term of office, authority and duties

[1] An auditing company subject to governmental supervision as required by law is to be appointed as Auditors.
[2] The General Meeting shall elect the Auditors for a term of office of one year. The rights and duties of the Auditors are determined by the provisions of the law.
[3] The General Meeting may appoint Special Auditors for a term of three years, who provide the attestations required for capital increases.

Section 4
Financial statements and appropriation of profit, reserves

Article 40

Financial year

The financial statements and the Group financial statements are closed on 31 December of each year.

Article 41

Appropriation of disposable profit

1 At least 5% of the profit for the year is allocated to the general statutory reserve until such time as said reserve amounts to 20% of the share capital.

2 The remaining profit is, subject to the provisions of the Swiss Code of Obligations and of the Swiss Federal Banking Act, at the disposal of the General Meeting who may also use it for the formation of free or special reserves.

Article 42

Reserves

The General Meeting determines the utilization of the general statutory reserve in accordance with the legal provisions acting upon the proposal of the Board of Directors.

Section 5
Compensation of the members of the Board of Directors and the Group Executive Board

Article 43

Approval of the compensation of the Board of Directors and the Group Executive Board

[1] The General Meeting shall approve the proposals of the Board of Directors in relation to:
a) The maximum aggregate amount of compensation of the Board of Directors for the period until the next Annual General Meeting
b) The maximum aggregate amount of fixed compensation of the Group Executive Board for the following financial year
c) The aggregate amount of variable compensation of the Group Executive Board for the preceding financial year.

[2] The Board of Directors may submit for approval by the General Meeting deviating or additional proposals relating to the same or different periods.

[3] In the event the General Meeting does not approve a proposal of the Board of Directors, the Board of Directors shall determine, taking into account all relevant factors, the respective (maximum) aggregate amount or (maximum) partial amounts and submit the amount(s) so determined for approval by the General Meeting.

[4] The Corporation or companies controlled by it may pay or grant compensation prior to approval by the General Meeting, subject to subsequent approval.

Article 44

General compensation principles

[1] The compensation system of the Corporation is designed to align reward with sustainable performance and to support appropriate and controlled risk-taking.

[2] When determining individual compensation, the Board of Directors or, where delegated to it, the compensation committee takes into account position and level of responsibility of the recipient and performance of the Corporation and companies controlled by it. It ensures compliance with applicable regulatory requirements.

[3] Compensation may be paid or granted in the form of cash, shares, financial instruments or units, in kind, or in the form of benefits. The Board of Directors or, where delegated to it, the compensation committee determines the key features, such as grant, vesting, exercise and forfeiture conditions and applicable harmful acts provisions. The Board of Directors, or where delegated to it, the compensation committee may provide, among other things, for continuation, acceleration or removal of vesting and exercise conditions, for payment or grant of compensation assuming target achievement or for forfeiture in the event of predetermined events such as a change-of-control or termination of an employment or mandate agreement. The Corporation or companies controlled by it may procure any shares required to meet any resulting payment obligations through purchases in the market or, to the extent available, by using the Corporation's conditional share capital.
[4] Compensation may be paid or granted by the Corporation or companies controlled by it.

Article 45

Compensation of the Board of Directors

[1] Compensation of the members of the Board of Directors shall comprise a base remuneration and may comprise other compensation elements and benefits.
[2] Compensation of the members of the Board of Directors is intended to recognize the responsibility and governance nature of their role, to attract and retain qualified individuals and to ensure alignment with shareholders' interest.

Article 46

Compensation of the Group Executive Board

[1] Compensation of the members of the Group Executive Board shall comprise fixed and variable compensation elements.
[2] Fixed compensation shall comprise the base salary and may comprise other compensation elements and benefits.

3 Variable compensation elements shall be governed by financial and non-financial performance measures that take into account the performance of the Corporation and/or parts thereof, targets in relation to the market, other companies or comparable benchmarks, short- and long-term strategic objectives and/or individual targets. The Board of Directors or, where delegated to it, the compensation committee determines the respective performance measures, the overall and individual performance targets, and their achievements.
4 The Board of Directors or, where delegated to it, the compensation committee aims to ensure alignment with sustainable performance and appropriate risk-taking through adequate deferrals, forfeiture conditions, caps on compensation, harmful acts provisions and similar means with regard to parts of or all of the compensation. Parts of variable compensation shall be subject to a multi-year vesting period.
5 If the maximum aggregate amount of compensation already approved by the General Meeting is not sufficient to also cover the compensation of a person who becomes a member of or is being promoted within the Group Executive Board after the General Meeting has approved the compensation, the Corporation or companies controlled by it shall be authorized to pay or grant each such Group Executive Board member a supplementary amount during the compensation period(s) already approved. The aggregate pool for such supplementary amounts per compensation period shall not exceed 40% of the average of total annual compensation paid or granted to the Group Executive Board during the previous three years.

Section 6
Notices and jurisdiction

Article 47

Official publication media

Public notices appear in the Swiss Official Gazette of Commerce (in French "Feuille Officielle Suisse du Commerce", or German "Schweizerisches Handelsamtsblatt"). The Board of Directors may designate other publications as well.

Article 48

Jurisdiction

Jurisdiction for any disputes arising out of the corporate relationship shall solely be at the registered office of the Corporation.

Section 7
Disclosure of contributions in kind

Article 49

Contribution in kind

[1] In connection with the capital increase dated 26 November 2014, the Corporation acquires from UBS AG, Zurich and Basel, acting as contributor in kind and exchange agent in its own name but for account of certain shareholders of UBS AG, Zurich and Basel, who have tendered their shares in the course of the public exchange offer of the Corporation, 3,183,370,731 shares of UBS AG, Zurich and Basel, with a par value of CHF 0.10 each and a total value of CHF 32,718,731,974.95. In return, the Corporation has issued 3,183,370,731 registered shares in the Corporation with a par value of CHF 0.10 each to the contributor in kind.
[2] In connection with the capital increase dated 26 November 2014, the Corporation acquires from UBS Securities LLC, 1285 Avenue of the Americas, New York, NY 10019, U.S., acting as contributor in kind and exchange agent in its own name but for account of certain shareholders of UBS AG, Zurich and Basel, who have tendered their shares in the course of the public exchange offer of the Corporation, 201,494,824 shares of UBS AG, Zurich and Basel, with a par value of CHF 0.10 each and a total value of CHF 2,070,966,814.07. In return, the Corporation has issued 201,494,824 registered shares in the Corporation with a par value of CHF 0.10 each to the contributor in kind.
[3] In connection with the capital increase dated 26 November 2014, the Corporation acquires from UBS AG, Zurich and Basel, acting as contributor in kind in its own name and in relation to shares tendered during the initial offer period in the course of the public exchange offer of the Corporation, 90,490,886 shares of UBS AG, Zurich and Basel, with a par value of CHF 0.10 each and a total value of CHF 1,533,820,517.70. In return, the Corporation has issued, on a one-to-one basis, 90,490,886 registered shares in the Corporation with a par value of CHF 0.10 each to the contributor in kind.

4 In connection with the capital increase dated 16 December 2014, the Corporation acquires from UBS AG, Zurich and Basel, acting as contributor in kind in its own name but for account of certain shareholders of UBS AG, Zurich and Basel, who (i) have tendered their shares in the course of the public exchange offer of the Corporation or (ii) have offered their registered shares for a private exchange under the terms of this public exchange offer, 229,042,914 shares of UBS AG, Zurich and Basel, with a par value of CHF 0.10 each and a total value of CHF 2,244,527,510.81. In return, the Corporation has issued, on a one-to-one basis, 229,042,914 registered shares in the Corporation with a par value of CHF 0.10 each to the contributor in kind.
5 In connection with the capital increase dated 16 December 2014, the Corporation acquires from UBS Securities LLC, 1285 Avenue of the Americas, New York, NY 10019, U.S., acting as contributor in kind in its own name but for account of certain shareholders of UBS AG, Zurich and Basel, who have tendered their shares in the course of the public exchange offer of the Corporation, 12,510,852 shares of UBS AG, Zurich and Basel, with a par value of CHF 0.10 each and a total value of CHF 122,601,267.19. In return, the Corporation has issued, on a one-to-one basis, 12,510,852 registered shares in the Corporation with a par value of CHF 0.10 each to the contributor in kind.
6 In connection with the capital increase dated 10 February 2015, the Corporation acquires from UBS AG, Zurich and Basel, 11,800,250 shares of UBS AG, Zurich and Basel, with a par value of CHF 0.10 each and a total value of CHF 130,476,501.09. In return, the Corporation has issued 11,800,250 registered shares in the Corporation with a par value of CHF 0.10 each to the contributor in kind.
7 In connection with the capital increase dated 9 March 2015, the Corporation acquires from UBS AG, Zurich and Basel, 9,525,000 shares of UBS AG, Zurich and Basel, with a par value of CHF 0.10 each and a total value of

CHF 104,986,854.19. In return, the Corporation has issued, on a one-to-one basis, 9,525,000 registered shares in the Corporation with a par value of CHF 0.10 each to the contributor in kind.

[8] In connection with the capital increase dated 12 June 2015, the Corporation acquires from UBS AG, Zurich and Basel, 17,500,000 shares of UBS AG, Zurich and Basel, with a par value of CHF 0.10 each and a total value of CHF 199,898,088.25. In return, the Corporation has issued, on a one-to-one basis, 17,500,000 registered shares in the Corporation with a par value of CHF 0.10 each to the contributor in kind.

[9] In connection with the capital increase dated 28 August 2015, the Corporation acquires from UBS AG, Zurich and Basel, 88,825,456 shares of UBS AG, Zurich and Basel, with a par value of CHF 0.10 each and a total value of CHF 968,693,952.29. In return, the Corporation has issued, on a one-to-one basis, 88,825,456 registered shares in the Corporation with a par value of CHF 0.10 each to the contributor in kind.

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UBS

Exhibit 1.2

UBS

Articles of Association UBS AG

26 April 2018

The present text is a translation of the original German Articles of Association ("Statuten") which constitute the definitive text and are binding in law.

In these Articles of Association, references to the generic masculine equally apply to both sexes.

Contents

Section 1
Name, registered office, business object and duration of the Corporation

Article 1

Name, registered office

A corporation limited by shares under the name of UBS AG / UBS SA / UBS Inc. is established with a registered office in Zurich and Basel.

Article 2

Business object

[1] The purpose of the Corporation is the operation of a bank. Its scope of operations extends to all types of banking, financial, advisory, trading and service activities in Switzerland and abroad.

[2] The Corporation may establish branches and representative offices as well as banks, finance companies and other enterprises of any kind in Switzerland and abroad, hold equity interests in these companies, and conduct their management.

[3] The Corporation is authorized to acquire, mortgage and sell real estate and building rights in Switzerland and abroad.

[4] The Corporation may borrow and invest money on the capital markets.

[5] The Corporation is part of the group of companies controlled by the group parent company UBS Group AG. It may promote the interests of the group parent company or other group companies. It may provide loans, guarantees and other kinds of financing and security for group companies.

Article 3

Duration

The duration of the Corporation shall not be limited by time.

Section 2
Share capital

Share capital

Article 4

The share capital of the Corporation is CHF 385,840,846.60, divided into 3,858,408,466 registered shares with a par value of CHF 0.10 each. The share capital is fully paid up.

Conditional capital

Article 4a

1 The share capital may be increased in an amount not to exceed CHF 38,000,000 by the issuance of up to 380,000,000 fully paid registered shares with a nominal value of CHF 0.10 each through the voluntary or mandatory exercise of conversion rights and / or warrants granted in connection with the issuance of bonds or similar financial instruments by the Corporation or one of its group companies on national or international capital markets. The preemptive rights of the shareholders shall be excluded. The then current owners of conversion rights and / or warrants shall be entitled to subscribe for the new shares. The conditions of the conversion rights and / or warrants shall be determined by the Board of Directors.

The acquisition of shares through voluntary or mandatory exercise of conversion rights and / or warrants, as well as each subsequent transfer of the shares, shall be subject to the registration requirements set forth in Article 5 of the Articles of Association.

In connection with the issuance of convertible bonds or bonds with warrants or similar financial instruments, the Board of Directors shall be authorized to restrict or exclude the advance subscription rights of shareholders if such instruments are issued (i) on national or international capital markets or (ii) to one or more financial investors. If the advance subscription rights are restricted or excluded by the Board of Directors, the following shall apply: the issuance of such instrument shall be made at prevailing market conditions, and the new shares shall be issued pursuant to the relevant conditions of that financial instrument. Conversion rights may be exercised during a maximum 10-year period, and warrants may be exercised during a maximum 7-year period, in each case from the date of the respective issuance. The issuance of the new shares upon voluntary or mandatory exercise of conversion rights and / or warrants shall be made at conditions taking into account the market price of the shares and / or comparable instruments with a market price at the time of the issuance of the relevant financial instrument.

Article 5

Share register and nominees

[1] A share register is maintained for the registered shares, in which owners' and usufructuaries' family and given names or the name of legal entities are entered, with their complete address and nationality or, in case of legal entities with their registered office. Shares held in joint accounts may be registered jointly with voting rights if all registered owners of the shares provide the declaration requested in paragraph 3 below.

[2] If the mailing address or registered office of a shareholder changes, the new address must be communicated to the Corporation. As long as this has not been done, all written communications will be sent to the address entered in the share register, this being valid according to the requirements of the law.

[3] Those who acquire registered shares shall, upon request, be entered in the share register as shareholders with voting rights if they expressly declare that they acquired these registered shares in their own names and for their own account. If the party acquiring the shares is not prepared to provide such a declaration, the Board of Directors may refuse to allow the shares to be entered with voting rights.

[4] The restriction on registration under paragraph 3 above also applies to shares acquired by the exercise of preemptive, option or conversion rights.

[5] The Board of Directors is authorized, after hearing the position of the registered shareholder or nominee affected, to strike the entry of a shareholder with voting rights from the share register retroactively with effect to the date of the entry, if it was obtained under false pretences. The party affected must be informed of the action immediately.

[6] The Board of Directors formulates general principles relating to the registration of fiduciaries / nominees and issues the necessary regulations to ensure compliance with the above provisions.

Article 6

Form of shares

[1] Registered shares of the Corporation will be, subject to paragraph 2, in the form of uncertificated securities (in the sense of the Swiss Code of Obligations) and intermediary-held securities (in the sense of the Intermediary-Held Securities Act).

[2] Following his registration in the share register, the shareholder may request the Corporation to issue a written statement in respect of his registered shares at any time; however, he has no entitlement to the printing and delivery of share certificates. In contrast, the Corporation may print and deliver share certificates for registered shares (single certificates, certificates representing multiples of shares or global certificates) at any time. It may withdraw registered shares issued as intermediary-held securities from the respective custody system. With the consent of the shareholder, the Corporation may cancel issued certificates which are returned to it without replacement.

Article 7

Exercise of rights

[1] The Corporation recognizes only one representative per share.

[2] Voting rights and associated rights may only be exercised in relation to the Corporation by a party entered in the share register as having the right to vote.

Section 3
Corporate bodies

A. General Meeting of Shareholders

Article 8

Authority

The General Meeting of Shareholders is the Corporation's supreme corporate body.

Article 9

Types of General Meetings
a. Annual General Meeting

The Annual General Meeting takes place every year within six months after the close of the financial year. The annual report and the report of the Auditors must be available for inspection by shareholders at the Corporation's registered offices at least twenty days before the meeting.

Article 10

b. Extraordinary General Meeting

[1] Extraordinary General Meetings are convened whenever the Board of Directors or the Auditors consider it necessary.
[2] Such a meeting must also be convened if demanded by a resolution of the shareholders in General Meeting or by a written request from one or more shareholders, representing together at least one tenth of the share capital, specifying the items to be included on the agenda and the proposals to be put forward.

Article 11

Convening

[1] The General Meeting shall be called by the Board of Directors, or if need be by the Statutory Auditors, at least twenty days before the meeting is to take place. The meeting is called by publishing a single notice in the publication of record designated by the Corporation. An invitation will be sent to all shareholders registered.
[2] The notice to convene the General Meeting shall specify the agenda with the proposals of the Board of Directors and proposals from shareholders, and, in the event of elections, the names of the proposed candidates.
[3] However, unless there is any opposition, the owners of all shares or their duly authorized representatives are empowered to hold a General Meeting without observance of the said formalities of notice. As long as the owners of all

shares are present in person or by proxy, such meeting may discuss or validly pass resolutions on all matters within the powers of a General Meeting.

Article 12

Placing of items on the agenda

[1] Shareholders representing shares with an aggregate par value of at least CHF 62,500 may submit proposals for matters to be placed on the agenda for consideration by the General Meeting, provided that their proposals are submitted in writing within the deadline published by the Corporation and include the actual motions to be put forward.
[2] No resolutions may be passed concerning matters which have not been duly placed on the agenda, except on a motion put forward at the General Meeting to call an Extraordinary General Meeting or a motion for a special audit to be carried out.

Article 13

Chairmanship, tellers, minutes

[1] The Chairman of the Board of Directors or, if the Chairman cannot attend, a Vice Chairman or another member designated by the Board of Directors, shall preside over the General Meeting and appoint a secretary and the necessary tellers.
[2] Minutes are kept of the proceedings and must be signed by the presiding chair of the meeting and the secretary.

Article 14

Shareholder proxies

[1] The Board of Directors issues procedural rules for participation and representation of shareholders at the General Meeting.
[2] A shareholder may be represented at the General Meeting by his legal representative or, under a written power of attorney, by another person who need not be a shareholder.
[3] The presiding chair of the meeting decides whether to recognize the power of attorney.

Article 15

Voting right

Each share conveys the right to cast one vote.

Article 16

Resolutions, elections

[1] Resolutions and elections are decided at the General Meeting by an absolute majority of the votes cast, excluding blank and invalid ballots, subject to these Articles of Association and the compulsory provisions of the law.

[2] A resolution to change article 18 of the Articles of Association, to remove one fourth or more of the members of the Board of Directors, or to delete or modify this article 16 paragraph 2 of the Articles of Association, must receive at least two thirds of the votes represented.
[3] The presiding chair of the meeting shall decide how voting on resolutions and elections are conducted.

Article 17

Powers

The General Meeting has the following powers:
a) to establish and amend the Articles of Association;
b) to elect the members and the Chairman of the Board of Directors;
c) to elect the Auditors;
d) to approve the annual report and to decide upon the appropriation of the net profit shown in the balance sheet;
e) to give the members of the Board of Directors and of the Executive Board a discharge; and
f) to take decisions on all matters reserved to the General Meeting by law or by the Articles of Association, or which are placed before it by the Board of Directors.

B. Board of Directors

Number of Board members

Article 18
The Board of Directors shall consist of at least five and no more than twelve members.

Term of office

Article 19
[1] The members of the Board of Directors and its Chairman are individually elected for a term of office which ends with the completion of the next Annual General Meeting.
[2] Members whose term of office has expired are immediately eligible for re-election.

Organization

Article 20
[1] Except for the election of the Chairman by the General Meeting, the Board of Directors shall constitute itself. It shall elect at least one Vice Chairman from among its members.
[2] The Board of Directors shall appoint its secretary, who need not be a member of the Board.
[3] If the office of the Chairman is vacant, the Board of Directors shall appoint a new Chairman from among its members for the remaining term of office.

Convening, participation

Article 21
[1] The Chairman shall convene the Board of Directors as often as business requires.
[2] The Board of Directors shall also be convened if one of its members or the President of the Executive Board submits a written request to the Chairman to hold such a meeting.

Decisions

Article 22
[1] Decisions of the Board of Directors are taken by an absolute majority of the votes present. In case of a tie, the presiding chair of the meeting shall cast the deciding vote.
[2] The number of members who must be present to constitute a quorum, and the modalities for the passing of resolutions shall be laid down by the Board of Directors in the Organization Regulations. No such quorum is required for decisions implementing, confirming and amending resolutions relating to capital increases.

Duties, powers

Article 23

[1] The Board of Directors has ultimate responsibility for the management of the Corporation and the supervision and control of its executive management.
[2] The Board of Directors may also take decisions on all matters which are not expressly reserved to the General Meeting or to another corporate body by law or by the Articles of Association.

Ultimate responsibility for the management of the Corporation

Article 24

The ultimate responsibility for the management of the Corporation comprises in particular:

a) preparing of and deciding on proposals to be placed before the General Meeting;
b) issuing the regulations necessary for the conduct of business and for the delineation of authority, in particular the Organization Regulations and the regulations governing the Internal Audit;
c) laying down the principles for the accounting, financial and risk controls and financial planning, in particular the allocation of equity resources and risk capital for business operations;
d) decisions on the strategy and other matters reserved to the Board of Directors under the Organization Regulations;
e) appointment and removal of (i) the President of the Executive Board, (ii) such other members of the Executive Board as the Organization Regulations require to be appointed by the Board of Directors, and (iii) the Internal Audit Executive; and
f) decisions on increasing the share capital, to the extent this falls within the authority of the Board of Directors (article 651 paragraph 4 of the Swiss Code of Obligations), on the report concerning an increase in capital (article 652e of the Swiss Code of Obligations) and on the ascertainment of capital increases and the corresponding amendments to the Articles of Association.

Article 25

Supervision, control

Supervision and control of the business management comprises in particular the following:

a) review of the annual report;
b) acceptance of regular reports covering the course of business and the position of the Corporation, the status and development of country, counterparty and market risks and the extent to which equity and risk capital are tied up due to business operations; and
c) consideration of reports prepared by the Auditors.

Article 26

Delegation, Organization Regulations

The Board of Directors may delegate part of its authority to one or more of its members or to third parties subject to articles 24 and 25 of the Articles of Association. The allocation of authority and functions shall be defined in the Organization Regulations.

Article 27

Signatures

The due and valid representation of the Corporation by members of the Board of Directors or further persons shall be determined in the Organization Regulations and in a special directive.

Article 28

Compensation

The Board of Directors shall determine the compensation of its members.

C. Executive Board

Organization

Article 29

The Executive Board is composed of the President of the Executive Board and at least three other members as further set forth in the Organization Regulations.

Functions, authorities

Article 30

[1] The Executive Board, acting under the leadership of the President of the Executive Board, is responsible for the management of the Corporation. It is the supreme executive body as defined by the Swiss Federal Law on Banks and Savings Banks. It implements the strategy decided by the Board of Directors and ensures the execution of the decisions of the Board of Directors. It is responsible for the Corporation's results.

[2] The responsibilities and authorities of the Executive Board and other management units designated by the Board of Directors are set forth in the Organization Regulations.

D. Auditors

Article 31

Term of office, authority and duties

[1] An auditing company subject to governmental supervision as required by law is to be appointed as Auditors.
[2] The shareholders in the General Meeting shall elect the Auditors for a term of office of one year. The rights and duties of the Auditors are determined by the provisions of the law.
[3] The General Meeting may appoint Special Auditors for a term of three years who provide the attestations required for capital increases.

Section 4
Financial statements and appropriation of profit, reserves

Article 32

Financial year

The statutory financial statements are closed on 31 December of each year.

Article 33

Appropriation of disposable profit

[1] At least 5% of the profit for the year is allocated to the general statutory reserve until such time as said reserve amounts to 20% of the share capital.
[2] The remaining profit is, subject to the provisions of the Swiss Code of Obligations and of the Federal Banking Act, at the disposal of the shareholders in General Meeting who may also use it for the formation of free or special reserves.

Article 34

Reserves

The shareholders in General Meeting determine the utilization of the reserves in accordance with the legal provisions acting upon the recommendations of the Board of Directors.

Section 5
Notices and jurisdiction

Article 35

Official publication media

Public notices appear in the Swiss Official Gazette of Commerce (in French "Feuille Officielle Suisse du Commerce", or German "Schweizerisches Handelsamtsblatt"). The Board of Directors may designate other publications as well.

Article 36

Jurisdiction

Jurisdiction for any disputes arising out of the corporate relationship shall be at both the registered offices of the Corporation, with the exception of legal actions in connection with the contestation or nullity of decisions of the General Meeting or the nullity of Board of Directors' decisions, where jurisdiction shall exclusively be with the courts of Zurich.

UBS AG
For the Board of Directors

Axel A. Weber Chairman	Markus Baumann Company Secretary

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P.O. Box, CH-4002 Basel

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Organization Regulations

of UBS Group AG

Valid as of 1 May 2019

Contents

Abbreviations and definitions

Whenever the context may require, any pronoun shall include the corresponding masculine, feminine and neuter forms.

AC	Audit Committee
Affiliated person	Person who directly or indirectly through one or more intermediaries controls or is controlled by or is under common control of UBS Group AG
AGM	Annual General Meeting of the shareholders
ALM Authorities	Asset and Liability Management Authorities – internal document setting out the high-level delegated authorities within the Group for asset and liability management
AoA	Articles of Association of UBS Group AG
BD(s)	Business division, organizational units of the business: (i) Global Wealth Management, (ii) Personal & Corporate Banking, (iii) Asset Management and (iv) the Investment Bank
Board / BoD	Board of Directors of UBS Group AG; non-executive Board members who do not perform management functions within UBS Group AG
Business regulations	Regulations issued by the BDs or the CC
CC	Corporate Center, which comprises the functions headed by the Group CEO, the Group COO, the Group CFO, the Group CRO, the Group GC, the Group CCGO and the Heads of the Non-core and Legacy Portfolio
Chairman	The Chairman of the Board
Chairpersons	The Board members who chair the Committees
CO	Swiss Code of Obligations
Committees	Committees of the Board as set out in section 2.1
Committees' charter	Charter of the Committees of the Board setting out the objectives, composition, authorities and responsibilities of the permanent Committees
Corporate bodies	The Board and bodies of the Group exercising delegated Board functions, such as the Committees, the GEB, committees established by the GEB, Group IA or other bodies mentioned herein
CCRC	Corporate Culture and Responsibility Committee
Divisional President / DP	Divisional Presidents are the heads of the respective BD, as set out in section 23 and in the respective business regulations
EGM	Extraordinary General Meeting of the shareholders
Financial statements	Quarterly and annual financial statements including, among others, the disclosure under "Management's Discussion and Analysis" and the 6K Report to the Securities and Exchange Commission and any formal announcements relating to the Group's performance
FINMA	Swiss Financial Market Supervisory Authority
GEB	Group Executive Board
GMD	Group Managing Director, including (ex officio) the Group Company Secretary and the Head Group IA
GNC	Governance and Nominating Committee
GCRG	Group Compliance, Regulatory & Governance
Group ALCO	Group Asset and Liability Management Committee
Group CCGO	Group Chief Compliance and Governance Officer
Group CEO	Group Chief Executive Officer
Group CFO	Group Chief Financial Officer
Group Company Secretary	Company Secretary of the Board
Group COO	Group Chief Operating Officer
Group CRO	Group Chief Risk Officer
Group Functional Head / GFH	Group CFO, Group COO, Group CRO, Group GC, Group CCGO and Group CEO as related to the responsibilities for certain Group functions as outlined in section 16.4
Group GC	Group General Counsel

Group IA	Group Internal Audit
HR	Human Resources
MD	Managing Director
ORs	Organization Regulations of UBS Group AG including annexes
Other UBS Entities	UBS Entities which are neither Significant Group Entities nor Significant Regional Entities
RC	Risk Committee
Regional President / RP	Regional Presidents as set out in section 22 and in the RP terms of reference
Risk Authorities	Internal document setting out the high-level delegated authorities within the Group for risk management and control
Shareholders	Shareholders of UBS Group AG
SID	The Senior Independent Director of the Board as set out in section 11
Significant Branches	Branches of UBS Entities subject to enhanced standards of corporate governance with annual operating income / expenses which are material to the Group
Significant Group Entities / SGEs	Individually significant subsidiaries of the Group which are subject to enhanced standards of corporate governance
Significant Regional Entities / SREs	Subsidiaries of the Group subject to enhanced standards of corporate governance with annual operating income / expenses which are material to the Group
SOX	Sarbanes-Oxley Act
Stakeholders	Persons, groups or organizations that have a direct or indirect stake in the Group and may, as a result, affect or be affected by the Group's actions, objectives and policies
UBS / Group	UBS Group AG and its subsidiaries; the UBS group of companies
UBS Entities	All subsidiaries (excluding Special Purpose Entities) which are either wholly or majority, directly or indirectly owned or otherwise controlled by UBS Group AG and which are intended to be held indefinitely
UBS Group AG	UBS Group AG, the listed parent company of the Group
Vice Chairmen	The Vice Chairmen of the Board as set out in section 11

Preamble by the Chairman

UBS draws on its more than 150-year heritage to serve private, institutional and corporate clients worldwide, as well as retail clients in Switzerland. Our shareholders, employees, clients and other interest groups hold high expectations of how we conduct our business. Good governance policies and processes are thereby an important foundation and, together with the strong values we have defined, are at the heart of UBS's culture. UBS and its employees apply the highest standards of business ethics and personal integrity to all of their business dealings and interactions.

The Organization Regulations constitute the Group's primary corporate governance guidelines establishing a corporate governance structure for UBS Group AG and its subsidiaries. These Organization Regulations have been approved by the Board of UBS Group AG, they comply with all relevant corporate governance requirements but are not intended in any way to be a substitute for mandatory provisions of law, rules or regulations applicable to the Group.

In the interest of transparency, the Organization Regulations are published on our website.

Axel A. Weber

Introduction

1 Basis and purpose

1.1 These ORs are enacted by the Board of UBS Group AG pursuant to article 716b of the CO and articles 25 and 27 of the AoA. **Basis**

1.2 The purpose of these ORs is: **Purpose**

(i) to implement and supplement requirements contained in applicable laws, stock exchange regulations, supervisory regulations and the AoA having regard to pertinent codes of best practice. In addition, these ORs constitute the corporate governance guidelines required by the New York Stock Exchange;
(ii) to define the functions, responsibilities and authorities of UBS Group AG's and the Group's corporate bodies and their members; and
(iii) to establish a coherent and efficient corporate governance structure by constituting the Group's primary governance guidelines to be applied to all direct and indirect subsidiaries of UBS Group AG and which supersede any other regulations and shall prevail in case of a conflict with such documents, subject to local law.

Mandatory provisions of applicable laws, rules and regulations or rules contained in the AoA override the ORs.

2 Organization of the Group

2.1 The Group and its business are organized as follows: **Organization in general**

(i) The Board, under the leadership of the Chairman, has the ultimate responsibility for the direction, supervision and control of the Group, performs the other duties described herein or as prescribed by mandatory provisions of law. The Board is responsible for deciding all matters and taking business decisions where such decisions exceed the authority delegated by the Board to the Committees, the GEB or the Group CEO.
(ii) As provided by mandatory law, rules and regulations, the AoA or these ORs, the executive management of the Group is delegated to the GEB under the leadership of the Group CEO.
(iii) The following permanent Committees assist the Board in the performance of its responsibilities:
  (a) the Audit Committee;
  (b) the Compensation Committee;
  (c) the Corporate Culture and Responsibility Committee;
  (d) the Governance and Nominating Committee; and
  (e) the Risk Committee.

2.2 UBS Group AG as the listed parent company of the Group controls directly or indirectly all subsidiaries and leads the Group by setting a harmonized strategic direction. It further sets principles and organizational structures to enable efficient and coordinated management of the Group and control of its subsidiaries. **Group steering**

Notwithstanding these endeavors, the legal independence of all subsidiaries, including formal decision-making by the corporate bodies of the respective entities as required under applicable constitutional documents, and the provisions of applicable local laws, rules and regulations relating to them must be observed to the extent legally required.

2.3 Under the leadership of the Chairman and the Group CEO, the Board and the GEB issue a Code of Conduct and Ethics to foster a coherent and effective corporate and compliance culture for the Group. **Corporate culture**

2.4 The banking business and support operations are performed by UBS Group AG's direct or indirect subsidiaries within the scope of applicable licenses. The business of the Group is organized in: **Organization of the Group's business**

(i) business divisions;
(ii) the Corporate Center; and
(iii) other structures as the Group CEO and the GEB consider appropriate for the effective management and supervision of the business.

This organization must be detailed in the Business regulations.

2.5 Subject to and in accordance with applicable local laws, rules and regulations, Corporate bodies are bound to ensure transparency and collaboration within the Group and may have additional responsibilities and reporting lines within the Group or within other legal entities of the Group.

Transparency, collaboration and reporting within the Group

3 Membership

3.1 In consultation with the Chairman, the GNC recommends candidates for election to the Board. The Board proposes such candidates for election by the shareholders. **Election proposal**

3.2 The Board's proposal for election ensures that three-quarters of the Board members will be independent. For this purpose, independence is determined in accordance with: **Independence of Board members**
(i) the FINMA circular 2017/1 "Corporate governance – banks"; and
(ii) the New York Stock Exchange rules.
Furthermore, there must be a sufficient number of Board members who meet the independence criteria for the Committee members set out in the annex "Charter of the Committees of the Board." The Chairman does not need to be independent.

3.3 Each Board member must notify the Chairman and the GNC immediately if circumstances change in a manner that may affect their independence. **Notification duty**

3.4 The Board, as a group, must have the necessary qualifications, skills and diversity to perform all Board duties. In particular, the Board must together possess financial literacy, experience in banking and risk management, as well as international experience, including experience of international financial matters, and knowledge of the duties of directors. **Expectations of the Board members**

Candidates for election to the Board shall be considered in light of their personal experience and abilities, including any specialist knowledge or skills required to fulfill specific Board functions as outlined herein, as well as their ability to contribute to building a complementary and effective Board.

4 Constitution

4.1 The Board consists of six to twelve Board members as per article 19 of the AoA. **Number of members**

4.2 The term of office for each Board member is one year pursuant to article 20 of the AoA. Subject to election by shareholders, Board members are normally expected to serve for a minimum of three years. No Board member may serve for more than 10 consecutive terms of office, in exceptional circumstances the Board can extend this limit. **Term of office**

4.3 The Board constitutes itself at its first meeting following the AGM. In this meeting **Constitutional meeting**
(i) the Vice Chairmen;
(ii) the SID;
(iii) the Committee Chairpersons; and
(iv) the Committee members, with the exception of the Compensation Committee members,
are appointed by the Board.

The Board may remove these Board members from their special functions at any time.

5 Responsibilities and authorities

5.1 In addition to mandatory provisions of law, rules, regulations and the AoA, the Board has the responsibilities and authorities set out in these ORs. **In general**

5.2 The Board is responsible for the overall direction, supervision and control of the Group and its management as well as for supervising compliance with applicable laws, rules and regulations. The Board exercises oversight over UBS Group AG and its subsidiaries and is responsible for ensuring the establishment of a clear Group governance framework to ensure effective steering and supervision of the Group taking into account the material risks to which the Group and its subsidiaries are exposed. **Supervision**

5.3 The Board has ultimate responsibility for the success of the Group and for delivering sustainable shareholder value within a framework of prudent and effective controls. It decides on the Group's strategy and the necessary financial and human resources upon recommendation of the Group CEO and sets the Group's values and standards to ensure that its obligations to shareholders and other stakeholders are met. **Ultimate responsibility**

5.4 The Board's ultimate responsibility for strategy and financial success includes in particular: **Strategy and financial success**

(i) deciding the strategy of the Group upon recommendation of the Group CEO, taking into account the proposals and alternatives presented;
(ii) approving the risk management and control framework of the Group, including the overall risk appetite of the Group and BDs;
(iii) deciding whether the Group should enter substantial new business areas or exit an existing business area, in cases where the entry or exit is not covered by the current approved strategic framework; and
(iv) approving major acquisitions, mergers, disposals or capital expenditure, including decisions on major changes to the company and Group structure, major changes in Significant Group Entities, and other projects of strategic importance for the Group.

5.5 With respect to the ultimate responsibility for the financial situation, the Board has in particular the following duties: **Finance**

(i) approving the applicable accounting standards, financial control frameworks as well as significant changes to them;
(ii) annually reviewing and approving the Three-Year Strategic Plan and One-Year Operating Plan of the Group, including the financial objectives and a capital allocation framework as well as the capital and liquidity plans;
(iii) reviewing and approving the annual financial statements of UBS Group AG; and
(iv) reviewing and approving the consolidated annual and quarterly financial statements as well as the consolidated annual report of the Group prior to its submission to the AGM.

5.6 The Board is responsible for establishing an appropriate business organization, including in particular: **Organization**

(i) approving and regularly reviewing the governance principles and the management structures as set out herein;
(ii) appointing and removing GEB members, the Group Company Secretary and the Head Group IA and reviewing their performance;
(iii) overseeing the effectiveness of the business organization and management information system implemented by the GEB;
(iv) supervising the internal control system;
(v) approving the charter for Group IA and monitoring Group IA; and
(vi) approving the compensation and benefits principles of the Group.

5.7 The Board has a duty to convene AGMs and EGMs, prepare the agenda for such meetings and implement resolutions adopted by the shareholders. **Meetings of shareholders**

5.8 In case of financial difficulties or insufficient equity, the Board must undertake all steps required under applicable law. **Loss of equity**

5.9 Within the limits of applicable law, regulations and the AoA, the Board may delegate part of its responsibilities and authorities to: **Delegation**

(i) the Committees;
(ii) individual Board members;
(iii) the GEB; and
(iv) individual GEB members.

5.10 The Board and the Committees may, in performing their duties, take advice from third parties. **Advice from third parties**

6 Meetings

6.1 The Board meets as often as business requires, and at least six times a year. **Number of meetings**

6.2 Board meetings are convened by the Chairman. Upon written request of any Board member or the Group CEO addressed to the Chairman, he can convene an extraordinary Board meeting in accordance with sections 6.3 and 6.4. **Convening meetings**

6.3 The Chairman or, if absent, one of the Vice Chairmen invites the Board members to the Board meetings. **Invitation**

6.4 The invitation contains the agenda and must be sent to Board members and other attendees as a rule at least five business days prior to the date of the Board meeting together with all necessary supporting material. In exceptional cases, supporting material may be sent later to allow the Board to receive the latest available information. This applies in particular to updates on financial data. **Agenda and notice period**

In time-critical cases (as determined at the Chairman's discretion), a Board meeting may be held and the supporting material may be sent at shorter notice.

6.5 Board meetings are chaired by the Chairman or, if absent, by one of the Vice Chairmen or, in their absence, by the SID or, in their absence, by another Board member selected by the Board members present. **Chair**

6.6 The Board may hold Board meetings as determined by the Chairman: **Attendees**
(i) with or without the participation of the Group CEO and all or some of the other GEB members; and
(ii) with the participation of other persons, who are invited to attend.

6.7 At least twice a year, the SID holds a meeting of the independent Board members without the participation of the Chairman. **Meetings of independent Board members**

6.8 Board meetings may be held in person, by audio or video conference. **Meeting format**

6.9 The minutes (including the annexes as presented to the Board) contain all Board resolutions made and reflect in a general manner the considerations that led to the decisions made. Dissenting opinions of and votes cast by Board members must also be reflected in the minutes. **Minutes of Board meetings**

6.10 The minutes must be signed by the Chairman or the Chairperson and the Group Company Secretary and must be made available for review prior to the next Board meeting at which these shall be approved. Board members are entitled to examine the minutes of any Board meeting at any time. **Form of minutes, inspection rights**

7 Resolutions

7.1 The presence of either the Chairman, one of the Vice Chairmen or the SID as well as the majority of the Board members is required to pass valid Board resolutions. If this quorum is not present, the Chairman can seek a circular resolution of the Board (see section 7.4). No such quorum is required for decisions confirming, implementing and amending resolutions relating to capital increases (article 23 (2) of the AoA). **Quorum of attendance**

7.2 Board resolutions are passed by an absolute majority of the votes of Board members present; in case of a tie, the Chairman's vote is decisive (article 23 (1) of the AoA). **Quorum of resolutions, decisive vote**

7.3 If time-critical matters arise after a Board meeting has already been convened, such matters may be discussed at the Board meeting and Board resolutions made if a majority of all Board members present agree. **Resolutions on items not on agenda**

7.4 In time-critical cases, Board resolutions may be passed in writing (including by e-mail or other electronic means). A proposal for a circular resolution must be communicated to all Board members and is only deemed to have passed if: **Circular resolutions**
(i) more than two-thirds of all Board members cast a vote or give written notice that they abstain;
(ii) an absolute majority of all Board members casting a vote approve the proposed resolution; and
(iii) no Board member requests a Board meeting in relation to the subject matter of the proposed Board resolution within three business days of receiving notice of the proposal.

7.5 A circular resolution is as binding as a Board resolution adopted at a Board meeting and must be recorded under a separate heading in the Board minutes prepared pursuant to sections 6.9 and 6.10 for the next Board meeting. **Effect of circular resolutions**

8 Information rights

8.1 Board members have access to all information concerning the business and the affairs of the Group as may be necessary or helpful for them to fulfill their duties as Board members. **Right of information**

8.2 At Board meetings, any Board member is entitled to request information on any matter relating to the Group regardless of the agenda, and the Board or GEB members present must provide such information to the best of their knowledge. **Request for information during Board meetings**

8.3 Should a Board member require information or wish to review documents outside a Board meeting, such request must be routed through the Group Company Secretary and addressed to the Chairman. **Request for information outside of Board meetings**

8.4 Should a Committee Chairperson require information or wish to review documents outside a Committee meeting, they can, within the range of responsibilities of their Committee, address their request to a member of the GEB directly, to Group IA or external auditors. The Chairman and the Group CEO must be informed accordingly. **Request for information outside of Committee meetings**

9 Self-assessment

9.1 At least annually, on the basis of an assessment conducted by the GNC (which includes an appraisal by an external expert at least every three years), the Board reviews its own performance, as well as the performance of each of the Committees. Such a review seeks to determine whether the Board and the Committees function effectively and efficiently. **Board self-assessment**

9.2 The GNC also arranges a performance evaluation for the Chairman. In light of the annual performance evaluation, the Board must consider whether any changes should be made to the membership of the Board or Committees. **Performance evaluation**

10 Chairman

10.1 The Board proposes the Chairman who in turn is elected by shareholders at the general meeting. **Election**

10.2 The Chairman promotes the highest standards of corporate governance for the Group as well as the highest standards of integrity and probity within the Group. **In general**

10.3 The Chairman leads the Board, in this regard he has in particular the following responsibilities: **Management of the Board and its Board meetings**

(i) to call Board meetings and set their agenda;
(ii) to coordinate the tasks within the Board and together with the Committee Chairpersons the work of all Committees;
(iii) to ensure that Board members receive accurate, timely, clear and necessary material and information to enable the Board and its Committees to make sound decisions, monitor the management of the Group effectively and promote the success of the Group;
(iv) to manage the Board, its meetings and resources to ensure its effectiveness by balancing the time allocated to its strategic and supervisory functions as well as ensuring sufficient time is allowed for discussion of complex or contentious matters;
(v) to ensure that Board resolutions are accurate in form and content and that they are implemented properly;
(vi) to build, together with the GNC, an effective and highly complementary Board with an appropriate balance of skills and experience, and to initiate changes in and planning Board succession and appointments;
(vii) to ensure the operation of a clear Committee structure;
(viii) to provide guidance to other Board members about what is expected of them; and
(ix) to consider and address, together with the GNC, the development needs of individual Board members and the Board as a whole through the establishment of an induction program for new Board members and a satisfactory ongoing training and education program for existing Board members.

10.4 The Chairman ensures that the Board convenes the AGMs and EGMs and that it prepares, and decides on, proposals to be made to the shareholders. The Chairman presides over the AGMs and EGMs and ensures that the Board implements resolutions adopted at the AGMs and EGMs insofar as permitted by law. **Shareholders' meetings**

10.5 The Chairman, together with the Group CEO, is closely involved in and responsible for ensuring effective communication with shareholders and stakeholders, including government officials, regulators and public organizations. The Chairman maintains close contact with the Group's principal regulators. **External communication**

The Chairman is the primary representative of the Board and, together with the Group CEO, of the Group with the media. Other Board members may only discuss Group matters with the media with the approval of the Chairman. The SID ensures communication with those shareholders who wish to conduct discussions with an independent Board member.

10.6 The Chairman establishes and maintains close working relationships with the Group CEO and the other GEB members, providing advice and support to them while respecting that day-to-day management responsibility is delegated to the GEB. The Chairman also facilitates a constructive relationship and promotes open communication between the Board and the Group CEO and other GEB members. Where appropriate, the Chairman ensures effective challenge of the Group CEO and the GEB by the Board and the Committees and fosters ongoing and effective monitoring of performance. **Relationship with Board and GEB**

10.7 Further details of the responsibilities and authorities delegated to the Chairman are set out in the annexes to these ORs. **Further responsibilities and authorities**

11 Vice Chairmen and Senior Independent Director

11.1 The Board appoints one or more Vice Chairmen and a SID. Both offices may be held by the same person. If the Board appoints more than one Vice Chairman, one of them must be independent. The Vice Chairmen support the Chairman with the responsibilities and authorities outlined herein. **Appointment**

11.2 Each of the Vice Chairmen is required to: **Responsibilities and authorities of the Vice Chairmen**
(i) lead the Board in the absence of the Chairman;
(ii) provide support and advice to the Chairman; and
(iii) undertake such specific additional duties or functions as the Board may entrust to him from time to time.

11.3 The SID is required to: **Responsibilities and authorities of the SID**
(i) create an appropriate information flow and communication system among the independent Board members;
(ii) collect and relay any issues or concerns of independent Board members to the Chairman;
(iii) handle communication on behalf of the independent Board members and facilitate communication, where appropriate, between shareholders and independent Board members; and
(iv) be available to act as a point of contact for shareholders and stakeholders who wish to conduct discussions with an independent Board member, including with concerns that have not been resolved or are not raised through the normal channels.

Further responsibilities and authorities of the SID follow from sections 6.7, 10.5 and 15.9.

12 Group Company Secretary

12.1 In the constitutional meeting of the Board, the Board appoints a Group Company Secretary who acts as secretary to the Board and its Committees. **Appointment and function**

12.2 The Group Company Secretary prepares the agenda for each Board meeting, keeps the Board minutes and the Committees' minutes and assists the Board and its members in coordinating and fulfilling their duties. In accordance with section 8.3, the Group Company Secretary coordinates requests for information from the members of the Board outside of Board meetings and informs the Group CEO of such requests accordingly. **Responsibilities and authorities**

12.3 The Group Company Secretary manages the staff supporting the Board and its Committees and reports to the Chairman. **Staff and reporting**

12.4 The Group Company Secretary is responsible for keeping UBS Group AG's official company documents and records including their certification. **Official documents**

13 Board Committees

13.1 The Board establishes the AC, the Compensation Committee, the CCRC, the GNC and the RC as permanent Committees. The Board may set up other Committees, including so-called ad hoc Committees, if deemed appropriate or necessary. **Permanent and other Committees**

13.2 From amongst its members, the Board appoints the Committee members and the respective Committee Chairpersons. The Compensation Committee members are proposed by the Board and in turn elected by shareholders at the general meeting. **Appointment and election**

13.3 Based on articles 25 and 27 of the AoA, the Board delegates certain responsibilities and authorities to the Committees pursuant to the annexes to these ORs. The overall responsibility for such delegated competences remains with the Board. **Responsibilities and authorities**

Group Executive Board

14 Delegation

14.1 The Board delegates the executive management of the Group as set out in section 2.1 (ii). **Delegation of management**

14.2 Pursuant to section 2.4, the Group CEO and the GEB may further delegate certain responsibilities and authorities within the Group and may empower further delegation of such responsibilities and authorities. Such delegations must be in writing, and clear rules on responsibilities, authorities and accountabilities must be established. Specific responsibilities and authorities delegated by the GEB to a committee of the GEB will be set forth in a resolution adopted or a charter approved by the GEB. **Further delegation by the GEB**

14.3 The GEB will establish arrangements to ensure that decisions are made in a time-critical business matter, should the responsible GEB member be unable to act. **Time-critical matters**

15 Group Executive Board

15.1 Under the leadership of the Group CEO, the GEB is comprised of the members detailed in sections 17 to 23 of these ORs and such further GEB members as appointed by the Board upon proposal of the Group CEO. **Composition and appointment**

15.2 Under the leadership of the Group CEO, the GEB has executive management responsibility for the steering of the Group and its business. It develops the Group and BD strategies and implements the Board-approved strategies. The GEB develops, implements and maintains an appropriate and adequate business organization designed to ensure compliance with applicable laws and regulations and an appropriate management information system. **Responsibilities and authorities**

15.3 The GEB acts as the risk council of the Group. It has overall responsibility for establishing and implementing risk management and control in the Group. It manages the risk profile of the Group as a whole as determined by the Board and the RC. The GEB determines its requirements for risk reporting, including improvements and changes to the reports, and receives periodic updates on risk data limitations. **GEB as risk council**

15.4 Where proposals for decisions must be made to the Board, the GEB prepares such proposals and supports the Board in its decision-making process. **Preparation of Board decisions**

15.5 The GEB is responsible for managing the Group's assets and liabilities in line with the Group strategy, regulatory commitments and interests of shareholders and other stakeholders. For this purpose, the GEB has established the Group ALCO pursuant to section 14.2. Further specific responsibilities and authorities delegated by the GEB to the Group ALCO are set forth in its terms of reference. **Group ALCO as a committee of the GEB**

15.6 The GEB is furthermore responsible for all management matters not reserved under the AoA or the ORs to any other person or body. **Further duties**

15.7 The GEB meets at least once every month or as appropriate. The agenda must be sent to the GEB members at least five calendar days prior to the date of the GEB meeting together with all necessary supporting material. In time-critical cases, a GEB meeting (called by the Group CEO as required or at the request of one GEB member addressed to the Group CEO) may be held and the supporting material may be sent on shorter notice. GEB meetings are chaired by the Group CEO or, if absent, by the nominated Deputy CEO. GEB meetings may be held in person, by audio or video conference. **Meetings, agenda and notice period**

15.8 The presence either in person or by audio or video conference of a majority of the GEB members is required to pass valid GEB resolutions. **Quorum of attendance**

15.9 The resolutions of the GEB are passed by the majority of the votes of the GEB members present. The Group CEO has the power to overrule any GEB resolution. If the Group CEO exercises this power, he must inform the Chairman and the SID immediately. **Quorum of resolutions**

15.10 Minutes are taken of all GEB meetings. They contain all resolutions made by the GEB. The minutes are sent to all GEB members and to the Chairman. Board members may inspect the GEB minutes in accordance with section 8. — **Minutes of GEB meetings**

15.11 With respect to circular resolutions of the GEB, sections 7.4 (i), 7.4 (ii) and 7.5 apply mutatis mutandis. — **Circular resolutions**

15.12 In unpostponable matters, and if it is not feasible to convene an audio or video conference or to proceed by circular resolution within the time available, the Group CEO may, together with two other GEB members, make decisions, which have the effect of GEB resolutions. GEB members who could not be reached in time must be informed together with the Chairman as soon as possible. Section 7.5 applies mutatis mutandis to such resolutions. — **Unpostponable matters**

15.13 At least annually, on the basis of an assessment, the Group CEO reviews the performance of the GEB. Such a review seeks to determine whether the GEB functions effectively and efficiently. In light of the annual performance evaluation, the Group CEO must consider whether any changes should be made to the composition of the GEB. — **Assessment**

15.14 In addition to the responsibilities for each GEB member set out below, further details of the responsibilities and key authorities delegated to the GEB members are set out in the annexes to these ORs and the relevant business regulations or Regional President terms of reference. — **Further duties of GEB members**

16 Group Chief Executive Officer

16.1 The Group CEO is appointed by the Board upon proposal of the Chairman and the GNC. — **Appointment**

16.2 The Group CEO is the highest executive officer of the Group and has responsibility and accountability for the management and performance of the Group. The Group CEO nominates a Deputy CEO from within the GEB who is confirmed by the Board. The Deputy CEO shall temporarily exercise all responsibilities and authorities if the Group CEO should be incapacitated or unavailable to exercise the function as Group CEO. — **Function, substitution**

16.3 The Group CEO sets the business and corporate agenda, ensures sound and timely decision-making and controls the implementation of decisions made. The Group CEO is in particular responsible for the following: — **Main responsibilities and authorities**
(i) ensuring the GEB fulfills its tasks and assumes its responsibilities;
(ii) ensuring alignment of the individual GEB members to the business and corporate agenda;
(iii) planning succession at GEB level;
(iv) supporting and advising senior management as well as fostering an integrated entrepreneurial leadership spirit across the Group;
(v) assuming a leading role in preparation of strategy, risk and compensation principles for the Board's consideration; and
(vi) together with the Chairman, undertaking responsibility for UBS's reputation and ensuring effective communications with shareholders and stakeholders (see also section 10.5).

16.4 In addition to the responsibilities outlined in section 16.3, the Group CEO has responsibility for the management and control of Group Communications & Branding and UBS in society. — **Further responsibilities and duties**

16.5 The Group CEO has an all-encompassing right to information about and examination of all matters handled in the business. He has the power to overrule any decisions made by any management body, including any resolution by the GEB (see section 15.9). — **Right to overrule decisions**

16.6 The Group CEO ensures that the Chairman and the Board are kept informed in a timely and appropriate manner. The Group CEO (either personally or through any other GEB member) regularly informs the Board on the current business development and on important business issues, including all matters falling within the duties and responsibilities of the Board. Such reports must cover: — **Reporting to the Board**
(i) key performance indicators and other relevant financial data of the Group;
(ii) existing and emerging risks;
(iii) updates on developments in important markets and on peers; and
(iv) information on all issues which may affect the supervisory or control function of the Board.

16.7 Each member of the GEB detailed in sections 17 to 23 below reports to the Group CEO. The Group Functional Heads have an obligation to advise the Chairman and relevant Committees on significant issues arising in the field of their responsibilities. — **Reporting by GEB members**

17 Group Chief Financial Officer

17.1 The Group CFO has in particular the following responsibilities:

Responsibilities and authorities

(i) managing the Group's financial accounting, controlling, forecasting, planning and reporting processes;
(ii) ensuring transparency in and assessing the financial performance of the Group and the BDs;
(iii) supporting the Group CEO in strategy development and key strategic topics;
(iv) managing and controlling the Group's tax affairs, treasury and capital management, including funding and liquidity risk, and regulatory capital ratios;
(v) ensuring asset and liability management by balancing consumption of the Group's financial resources;
(vi) consulting with the AC to make proposals to the Board regarding the standards for accounting to be adopted by UBS Group AG and the Group and defining the standards for financial reporting and disclosure;
(vii) managing relations with analysts and investors in coordination with the Group CEO;
(viii) under the supervision of the AC, coordinating the working relationships with the external auditors; and
(ix) managing the Group Finance function.

18 Group Chief Operating Officer

18.1 The Group COO has in particular the following responsibilities:

Responsibilities and authorities

(i) formulating Group-wide digital transformation and operating strategies, objectives, financial and execution plans for the Group COO area in support of the BDs and Group functions;
(ii) delivering IT services, tools and infrastructure, including cyber protection and IT security, in line with the needs of the BDs and Group functions;
(iii) delivering a wide range of operational services and standards across all BDs and Group functions;
(iv) supplying real estate infrastructure and general administrative services to the Group;
(v) directing and controlling all supply and demand management activities, supporting the Group with its third-party sourcing strategies and managing the Group's near- / offshore, outsourcing and supplier-related processes;
(vi) defining and executing a human resources strategy aligned to UBS's objectives and positioning the Group as employer of choice and providing HR services to employees as well as strategic advice to line managers and GEB members; and
(vii) managing the Group COO function.

19 Group Chief Risk Officer

19.1 The Group CRO has in particular the following responsibilities:

Responsibilities and authorities

(i) the development of the Group's risk management and control framework (including risk principles and risk appetite) for the credit, market and treasury risk categories, as well as the implementation of independent control frameworks for these risk categories, on the basis of and in accordance with the framework approved by the Board, including:
  (a) developing and implementing frameworks for risk measurement, aggregation, portfolio controls and for risk reporting; and
  (b) taking decisions on transactions, positions, exposures, portfolio limits and allowances in accordance with the risk control authorities delegated to the Group CRO.
(ii) monitoring and challenging the Group's risk-taking activities for the risk categories under Group CRO responsibility; and
(iii) managing the Group risk control function.

20 Group General Counsel

20.1 The Group GC has in particular the following responsibilities:

Responsibilities and authorities

(i) managing the Group's legal affairs and ensuring effective and timely assessment of legal matters impacting the Group or its businesses;
(ii) providing the legal advice required by the Group;
(iii) management and reporting of all litigation and other significant contentious matters, including all legal proceedings, that involve UBS; and
(iv) managing the legal function of the Group.

21 Group Chief Compliance and Governance Officer

21.1 The Group CCGO has in particular the following responsibilities:

Responsibilities and authorities

(i) ensuring that all operational risks, including compliance and conduct risks as well as cyber and information security risks, are identified, owned and managed to the firm's risk appetite, supported by an effective control framework;
(ii) developing the Group's governmental policy and regulatory strategy;

(iii) coordinating external governmental and regulatory relations and overseeing strategic regulatory matters including key regulatory change programs across the Group;
(iv) overseeing the firm's change initiatives and firm-wide investment governance;
(v) developing global and local recovery and resolution plans and defining adequate resolvability improvement measures;
(vi) developing the Group's organization and legal entity structure, as well as corporate governance standards;
(vii) governing the Group's internal and external investigations portfolio and performing important investigations; and
(viii) managing the Group Compliance, Regulatory & Governance function.

22 Regional Presidents

Responsibilities and authorities

22.1 The Regional Presidents have in particular the following responsibilities:
(i) cross-divisional collaboration;
(ii) representing the Group to the broader public in their region;
(iii) providing input to and facilitating the implementation of the Group's strategy; and
(iv) for Significant Group Entities, Significant Regional Entities and Significant Branches, the Regional Presidents assume responsibility for certain key entity governance processes.

Reporting obligation

22.2 The Regional Presidents shall inform the relevant GEB member of any activities and issues that may give rise to actual or potential material regulatory or reputational concerns and of other relevant matters within the scope of their responsibilities.

23 Divisional Presidents

Responsibilities and authorities

23.1 The Divisional Presidents have in particular the following responsibilities:
(i) proposing BD strategies taking into account input from the Regional Presidents;
(ii) the operation and management of their BD;
(iii) controlling and administering the dedicated financial resources, risk appetite, people and infrastructure of the BD;
(iv) cooperating and collaborating with the Regional Presidents to support them in the exercise of their competences with regard to certain key entity governance processes; and
(v) the success, risks, results and value of their BD.

They are further accountable for the front-to-back control environment of the respective BD and are supported by the Group Functional Heads, who are accountable for confirming end-to-end completeness and effectiveness of their Group functions.

Group Internal Audit

24 Scope, responsibilities, authorities and reporting

24.1 Group IA is the internal audit function for the entire Group. **Scope**

24.2 Group IA independently, objectively and systematically assesses the: **Responsibilities**
(i) effectiveness of processes to define strategy and risk appetite as well as the overall adherence to the approved strategy;
(ii) effectiveness of governance processes;
(iii) effectiveness of risk management, including whether risks are appropriately identified and managed;
(iv) effectiveness of internal controls, specifically whether they are commensurate with the risks taken;
(v) soundness of the risk and control culture;
(vi) effectiveness and sustainability of remediation activities, originating from any source;
(vii) reliability and integrity of financial and operational information, including whether activities are properly, accurately and completely recorded, and the quality of underlying data and models; and
(viii) effectiveness of processes to comply with legal and regulatory requirements, as well as with internal policies, the Group's constitutional documents and contracts, in particular assessing whether such requirements are met, and the adequacy of processes to sustainably meet them.

Group IA further conducts special audits upon request from the AC, or from other Board members, Committees or the Group CEO in consultation with the AC.

24.3 Details of the role, responsibilities and authorities of Group IA are set out in the charter for Group IA. The charter is approved by the Board on the recommendation of the Chairman and the AC. **Charter**

24.4 Group IA possesses unrestricted auditing rights within the Group; it has access at all times to all accounts, books, records, systems, property and personnel in order to fulfill its auditing responsibilities. The Head Group IA has open, direct and unrestricted access to the Chairman, the RC and the AC as well as to the Group CEO. **Access rights**

24.5 Group IA is independent in determining its activities, in particular when defining audit scope and executing audit engagements. Group IA reports are not subject to any instructions or restrictions, and its authority to audit is unrestricted. **Independence**

25 Head Group IA

25.1 The Head Group IA reports directly to the Chairman. In addition, the Head Group IA has a functional reporting line to the AC in line with the responsibilities of the AC as set forth in the AC charter. The Head of Group IA must inform the AC of the results of the annual internal audit plan and the status of annual internal audit objectives and must be in regular contact with the AC. **Reporting**

25.2 The Head Group IA is appointed by the Board upon the proposal of the Chairman and the AC. **Appointment**

Special provisions

26 Authority to sign

26.1 Signing in the name of UBS Group AG requires two authorized signatures to be binding. The Board shall designate those persons authorized to sign on behalf of UBS Group AG. **In general**

26.2 The Board issues signing authority rules, specifying details and principles, including the scope of signature authorities and possible extensions, exceptions to the joint signature authority principle, and the possibility for signatories of UBS Entities to sign on behalf of UBS Group AG. In addition, UBS Entities establish their own rules, according to mandatory provisions of local law, rules and regulations. **Signing authority rules**

27 Form of signature

27.1 All authorized signatories sign by adding their signature to the name of the legal entity on whose behalf they act. **Signature form**

28 Conduct of Board and GEB members

28.1 Each member of the Board and the GEB is under a duty to carry out their responsibilities with due care and to safeguard and further the interests of UBS and of all of its shareholders. **Duty of care and loyalty**

28.2 The Board and GEB members arrange their personal and business affairs, including their affairs with regard to a related person or company, so as to avoid, as much as possible, an actual or potential conflict with the interests of the Group. **Conflicts of interest**

28.3 Each Board member must disclose to the Chairman, and each GEB member must disclose to the Group CEO, any conflict of interest generally arising or relating to any matter to be discussed at a meeting, as soon as the Board or GEB member becomes aware of its existence. **Disclosure of conflict of interest**

28.4 Unless exceptional circumstances dictate that in the best interests of UBS a Board or GEB member with a conflict of interest shall not participate in the discussions and decision-making involving the interest at stake, the Board or GEB member with a conflict of interest shall participate in discussions and: **Procedural measures**

(i) a double vote (a vote with and a vote without the conflicted individual) shall take place;
(ii) a binding decision on the matter requires the same outcome in both votes;
(iii) the Chairman or the Group CEO must advise the respective Corporate body of the conflict of interest; and
(iv) the existence of the conflict must be recorded in the meeting minutes.

In the event of doubt, the Chairman or the Group CEO shall request the respective Corporate body to determine whether a conflict of interest or exceptional circumstances exist.

28.5 Except for information already in the public domain, each Board and GEB member shall keep all information relating to the Group learned during the performance of their duties strictly confidential at all times. Such information may only be disclosed to third parties with prior written clearance from the Chairman or the Group CEO. This obligation and duty continues even after the term of office of the Board or GEB member has expired for as long as the relevant information remains confidential. **Duty of confidentiality**

28.6 If a Board or a GEB member becomes aware of the fact that they may receive a financial or non-financial benefit other than any salary, remuneration or other benefit from UBS, as a result of employment within the Group, that person must: **Benefits of Board and GEB members**

(i) promptly inform the Board, in the case of a Board member or the Group CEO; and
(ii) promptly inform the Group CEO, in the case of a GEB member other than the Group CEO.

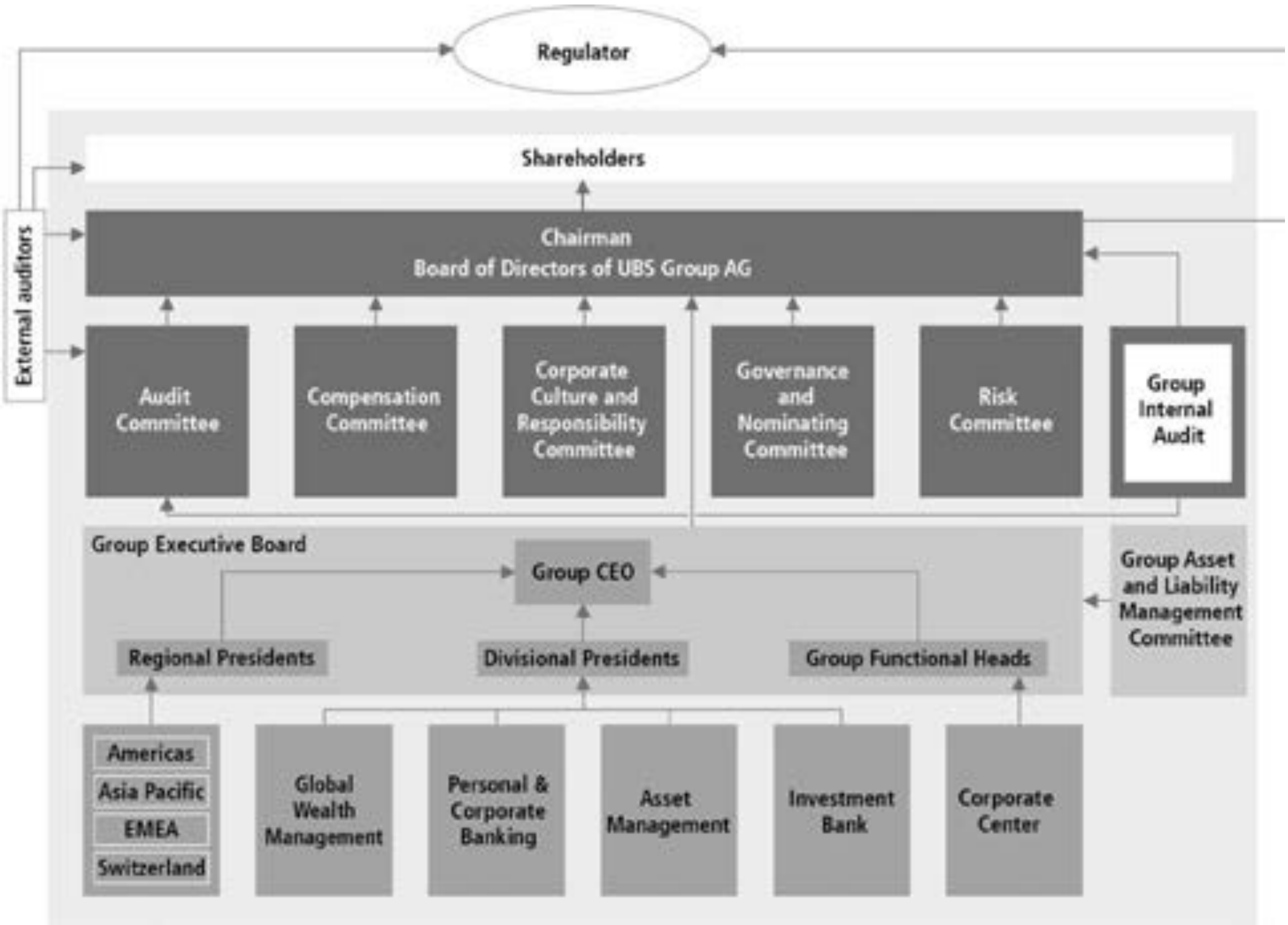
29 Entry into force, amendments

29.1 These ORs replace the former regulations of 1 March 2018 governing the internal organization of UBS Group AG and come into effect on 1 May 2019, based on a Board resolution of UBS Group AG dated 21 February 2019. **Entry into force**

29.2 These ORs may be amended by the Board only with the approval of FINMA. **Amendments**

Annex – *Organizational chart of UBS Group AG*

Organizational chart of UBS Group AG



Annex – *Charter of the Committees of the Board*

Contents

Introduction

1 Basis and purpose

1.1 This Committees' charter is enacted by the Board pursuant to articles 716–716b CO, articles 25 and 27 of the AoA and sections 5.9 and 13.3 of the ORs. **Basis**

1.2 The purpose of this Committees' charter is to set out the objectives, composition and responsibilities of the permanent Board Committees, being: **Purpose**
(i) the Audit Committee;
(ii) the Compensation Committee;
(iii) the Corporate Culture and Responsibility Committee;
(iv) the Governance and Nominating Committee; and
(v) the Risk Committee.

Membership and constitution

2 Number of Committee members, their independence and knowledge

2.1 Each Committee must have at least three Committee members. **Minimum number of Committee members**

2.2 Each Committee must consist of members of the Board who: **Independence**
(i) with respect to the Compensation Committee, are all independent as defined by section 3.2 of the ORs;
(ii) with respect to the GNC and CCRC, are independent, in a majority, as defined by section 3.2 of the ORs;
(iii) with respect to the AC, fulfill the independence criteria set out in sections 2.3 and 2.4 of this Committees' charter; and
(iv) with respect to the RC, are all independent as defined by section 3.2 of the ORs and fulfill the independence criteria set out in section 2.4 of this Committees' charter.

At least one member of the RC must also be a member of the Compensation Committee.

2.3 In addition to the independence criteria set out in section 3.2 of the ORs, each AC member must meet the requirements set forth in rule 10A-3 of the Securities Exchange Act of 1934 and the New York Stock Exchange rules. **Special independence rules for AC members**

2.4 Each AC and RC member must: **Special rules for AC and RC members**
(i) not be an affiliated person of UBS; for the avoidance of doubt, serving as a member of the Board of a subsidiary of UBS Group AG or an affiliated company of the Group and receiving remuneration for such activity does not, of itself, make an AC or an RC member an affiliated person; and
(ii) not receive any consulting, advisory or other compensatory fees from UBS or any of its affiliated persons other than in their capacity as a Board member or a Committee member.

Each AC member must not serve on the audit committee of more than two other public companies, unless the Board has made a determination that such AC member or prospective AC member has the availability to properly fulfill their duties with UBS.

2.5 At least one of the Vice Chairmen and / or the SID is a member of the GNC. **Special rules for GNC members**

2.6 Committee members must have the necessary knowledge and experience to fulfill their functions. **Knowledge**

2.7 Generally, the Chairman or one of the Vice Chairmen chairs the GNC. The Chairman may attend the meetings of other Committees in consultation with the relevant Committee Chairperson. **Membership and presence of the Chairman**

3 Constitution

3.1 The Committee Chairperson and the Committee members, with the exception of the Compensation Committee members, are appointed pursuant to section 4.3 of the ORs, and the Board may remove any Committee member or any Committee Chairperson at any time. Should a vacancy arise on any Committee, even if the minimum number of Committee members pursuant to 2.1 of this Committees' charter is still met, the Board may appoint the missing member from among its members for the remaining term of office. **Appointment and removal by the Board**

Responsibilities and authorities

4 Delegation of responsibilities and authorities

4.1 Pursuant to section 13.3 of the ORs, the Committees have the responsibilities and authorities set out in the annexes to the ORs. **In general**

5 Audit Committee

5.1 The function of the AC is to support the Board in fulfilling its oversight duty relating to financial reporting and internal controls over financial reporting, the effectiveness of the external and internal audit functions, and the effectiveness of whistleblowing procedures. **In general**

Management is responsible for the preparation, presentation and integrity of the financial statements, while the external auditors are responsible for auditing financial statements. The AC's responsibility is one of oversight and review.

5.2 The AC's responsibilities and authorities for UBS Group AG and the Group are to: **Responsibilities and authorities**

(i) Financial reporting:
- (a) monitor the integrity of the financial statements and any announcements related to financial performance, and review significant financial reporting judgements contained in them, before recommending their approval to the Board;
- (b) advise the Board on whether the annual report and financial statements, taken as a whole, are fair, balanced and understandable, and provide the information necessary for shareholders to assess the company's position and performance, business model and strategy;
- (c) review the organization and completeness of the financial reporting process including the Group's internal control system and procedures as they relate to the integrity of the financial statements, taking into account the reports provided by the GEB, the external auditors, Group IA, regulators or other information as determined by the Committee to be appropriate;
- (d) review management's SOX 404 report in relation to internal controls over financial reporting;
- (e) review significant accounting policies and practices and compliance with accounting standards; and
- (f) review arrangements for compliance with the Group's legal, regulatory and other requirements (including tax matters) as they relate to the integrity of the financial statements or financial report;

(ii) External audit:
- (a) oversee the Group's relationship with and assess the qualifications, expertise, effectiveness, independence and performance of the external auditors and their lead audit partner; support the Board in reaching a decision in relation to the appointment, reappointment or dismissal of the external auditors and the rotation of the lead audit partner;
- (b) approve the engagement letter of the external auditors, including the scope of the audit and the fees and terms for the planned audit work;
- (c) oversee all audit and permitted non-audit services provided by the external auditors and establish such policies as the Committee deems appropriate;
- (d) annually review the external auditors' summary of adjusted and unadjusted differences; and
- (e) review the regulatory audit plan and the results of regulatory audits;

(iii) Group IA:
- (a) monitor and assess the effectiveness, independence and performance of the Head Group IA and Group IA;
- (b) approve Group IA's annual audit plan and objectives including subsequent important amendments;
- (c) monitor Group IA's discharge of its annual audit objectives; and
- (d) order special audits to be conducted either by Group IA or by mandating third parties and review and approve such requests from other Board members, Committees or the Group CEO.

(iv) Whistleblowing and Investigations:
- (a) review the effectiveness of the firm's whistleblowing policies and procedures and ensure that appropriate whistleblowing mechanisms are in place;

(b) review on a quarterly basis the levels of new and pending whistleblowing cases and reports on complaints made regarding accounting, auditing or other matters;
(c) review on a quarterly basis reports on internal investigations; and
(d) conduct or direct any investigation, including the retention of external advisors and consultants (at UBS's expense), as it considers necessary in order to discharge its responsibilities;

(v) Human Resources:
(a) annually provide input on the performance of the Group CFO, Group GC, Group CRO and Group CCGO to the Group CEO; and
(b) review and make recommendations to the Board regarding decisions relating to the hiring and dismissal of the Group CFO.

6 Compensation Committee

In general

6.1 The function of the Compensation Committee is to support the Board in its duties to set guidelines on compensation and benefits, to oversee implementation thereof, to approve certain compensation and to scrutinize executive performance.

Responsibilities and authorities

6.2 The Compensation Committee's responsibilities and authorities are to:

(i) Compensation strategy and guidelines:
(a) periodically review the Group compensation strategy and guidelines and propose any material amendments to the Board for approval; and
(b) evaluate the effectiveness of pay for performance across the Group;

(ii) Performance targets:
(a) establish, together with the Chairman, financial and non-financial performance targets for the Group CEO;
(b) review, upon the recommendation from the Group CEO, financial and non-financial performance targets for the other GEB members; and
(c) inform the Board of the outcome of the review of such performance targets;

(iii) Performance evaluation:
(a) in consultation with the Chairman, review the performance of the Group CEO in meeting agreed targets;
(b) review the Group CEO's performance assessment of the other GEB members in meeting agreed targets; and
(c) inform the Board of the individual performance assessments of the GEB members;

(iv) Compensation plans and governance:
(a) approve key terms of the compensation programs and plans for the non-independent Board members and GEB members;
(b) propose the key terms of new or amended equity plans with significant use of UBS Group AG shares to the Board for approval;
(c) approve key terms of new or amended compensation plans and other compensation arrangements with a material financial, reputational or strategic impact;
(d) be informed on new or materially amended pension and benefits plans that have a material financial, reputational or strategic impact;
(e) approve standard contracts / employment agreements and standard termination agreements for non-independent Board members and, together with the Chairman, for GEB members; approve all material individual variations to such agreements and the compensation plan rules, regardless of the participant's current status;
(f) approve the engagement of any external advisors / consultants retained by the Committee and the funding for those services; consider certain factors relevant to the advisors' independence from management, including any factors required under New York Stock Exchange listing standards prior to selecting, or receiving advice from, an advisor;
(g) propose to the Board for approval the annual compensation report and approve other material public disclosures on UBS compensation matters;
(h) approve the peer group / comparator framework used for non-independent Board and GEB members' pay comparison purposes;
(i) approve the share ownership policy for GEB members;
(j) annually review compensation structures with HR and the risk management function to ensure they do not encourage excessive or unnecessary risk-taking;
(k) periodically meet with the RC to ensure that the compensation framework appropriately reflects risk awareness and management, and ensures appropriate risk-taking; and
(l) monitor major regulatory developments, shareholder initiatives and best practices in executive compensation; and

(v) Other compensation competences:
(a) approve the total compensation for the Chairman and the non-independent Board members;
(b) together with the Chairman, propose the total individual compensation for the independent Board members for approval by the Board;

(c) approve remuneration / fee frameworks for external supervisory board members of Significant Group Entities and periodically review remuneration / fee frameworks for external supervisory board members of Significant Regional Entities;
(d) together with the Chairman, propose to the Board the total individual compensation of the Group CEO for approval by the Board;
(e) propose to the Board for approval, upon the recommendation from the Group CEO, the total individual compensation for GEB members;
(f) upon proposal of the Chairman, approve total individual compensation for the Head Group IA, the Group Company Secretary and, upon proposal of the Group CEO, the total compensation for former GEB members for the first financial year after leaving the GEB;
(g) together with the Board, propose for approval by a general meeting of the shareholders:
a. the maximum aggregate amount of compensation for the Board;
b. the maximum aggregate amount of fixed compensation for the GEB; and
c. the aggregate amount of variable compensation for the GEB for a certain period as outlined in and in accordance with the AoA;
(h) for employees within the Group:
a. approve total individual compensation for the 50 highest-paid employees (excluding GEB members) at year-end compensation review;
b. review all employees, including new hires, who are proposed to receive total individual compensation (including retention awards) of equal to or more than USD 3 million in any one year on an annualized basis;
c. approve total individual compensation of equal to or more than USD 5 million in any one year on an annualized basis;
d. approve replacement awards for those new hires who are proposed to receive such awards in the estimated amount of equal to or more than USD 5 million;
e. propose to the Board for approval severance payments of USD 2 million or more (excluding severance payments that are legally obligated or part of a severance plan); and
f. approve total individual compensation of certain employees based on additional regulatory requirements;
these approval authorities can be delegated to the Chairperson of the Compensation Committee;
(i) review and regularly monitor progress against the business performance targets and other variables that impact the funding of annual variable compensation; and
(j) propose to the Board for approval the final annual variable compensation pool and approve the variable compensation pools for the BDs and CC.

7 Corporate Culture and Responsibility Committee

7.1 The CCRC supports the Board in its duties to safeguard and advance the Group's reputation for responsible and sustainable conduct. Its function is forward-looking in that it monitors and reviews societal trends and transformational developments and assesses their potential relevance for the Group. In undertaking this assessment, it reviews stakeholder concerns and expectations pertaining to the societal performance of UBS and to the development of its corporate culture. The CCRC's function also encompasses the monitoring of the current state and implementation of the programs and initiatives within the Group pertaining to corporate culture and corporate responsibility. **In general**

7.2 The CCRC's responsibilities and authorities are to: **Responsibilities and authorities**
(i) General:
(a) monitor and advise the Board on current and emerging societal trends and developments of potential relevance for the Group;
(b) review and assess the current state and implementation of the corporate culture and corporate responsibility programs and initiatives within the Group; and
(c) monitor the consistent application of the behaviors of integrity, challenge and collaboration within UBS;
(ii) Policies and regulations:
(a) monitor and advise the Board on evolving external corporate culture and corporate responsibility regulations, standards and practices;
(b) conduct the annual review process for the Code of Conduct and Ethics of UBS and make proposals for amendments to the Board; and
(c) review and oversee that policies and guidelines of UBS pertaining to corporate culture and corporate responsibility are relevant and up to date;
(iii) Strategy:
(a) monitor the effectiveness of actions taken by UBS relating to the corporate culture and responsibility regulations and policies as well as objectives of UBS;
(b) support the GEB, if required, in the adjustment of processes pertaining to corporate culture and responsibility;
(c) approve UBS in society's overall strategy and annual objectives; and

(d) support a strong and responsible corporate culture firmly founded in a spirit of long-term thinking;

(iv) Programs and initiatives:
oversee UBS's corporate culture and corporate responsibility programs and initiatives, including:
- (a) UBS in society;
- (b) sustainable and impact investing,
- (c) client philanthropy;
- (d) environmental and social (including human rights) risk management;
- (e) climate strategy;
- (f) in-house environmental management;
- (g) responsible supply chain management;
- (h) community affairs;
- (i) diversity and inclusion;
- (j) talent management;
- (k) working environment; and
- (l) combating financial crime;

(v) Communications:
- (a) advise the Board on the reporting of the Group's corporate culture and responsibility strategy and activities, review the relevant sections of the Group's annual reporting, and provide oversight of the annual UBS sustainability disclosure assurance audit process; and
- (b) monitor and review communications with stakeholders on corporate culture and corporate responsibility (including with relevant organizations and with sustainability rating and ranking bodies) and their effectiveness with regard to the reputation of the Group.

8 Governance and Nominating Committee

In general

8.1 The function of the GNC is to support the Board in fulfilling its duty to establish best practices in corporate governance across the Group, including conducting a Board assessment, establishing and maintaining a process for appointing new Board and GEB members as well as for the annual performance assessment of the Board.

Responsibilities and authorities

8.2 The GNC's responsibilities and authorities are to:

(i) Corporate governance:
- (a) address all significant corporate governance issues affecting the Group;
- (b) develop, maintain and review these ORs and make proposals to the Board for approval;
- (c) make recommendations to the Board concerning further corporate governance matters and practices;
- (d) review the corporate governance section of the Group's annual report;
- (e) coordinate as required the work of the other Committees regarding corporate governance in their specific areas of expertise;
- (f) plan and manage proposals for changes in Board membership, taking into account factors including:
  - a. the size and composition of the Board as well as its Committees; and
  - b. the skill mix, industry experience, diversity considerations and responsibilities of Board members;
- (g) annually review the Board members' independence and present its assessment to the Board for approval;
- (h) approve mandates of Board and GEB members pursuant to articles 31 and 36 of the AoA and applicable internal policies; and
- (i) approve the appointment of supervisory board members for Significant Group Entities upon proposal by the Group CEO and ensure the Chairperson of the respective Board Committee of UBS Group AG is consulted on the appointment of Chairpersons to equivalent committees for Significant Group Entities;

(ii) annually review the Committees' charter, taking into account best practice rules;

(iii) Identification and nomination of new Board members:
- (a) develop, maintain and review principles and criteria regarding the recruitment and nomination of new Board members and Committee members, approve their existing mandates, assess their independence pursuant to section 3.2 of the ORs and provide specific proposals to the Board for approval;
- (b) review and propose new candidates for membership of the Board to be recommended for election by the shareholders at an AGM or EGM in accordance with selection criteria approved by the Board; and
- (c) manage a succession plan for Board and Committee membership;

(iv) Board education:
- (a) ensure the establishment of a satisfactory induction program for new Board members and a satisfactory ongoing training and education program for existing Board members and Committee members;
- (b) maintain a list of trainings attended by individual Board members (maintained by the Group Company Secretary on behalf of the GNC);

(v) Performance evaluation:
   (a) set the criteria for and oversee the annual assessment of the performance and effectiveness of the Chairman, the Board as a whole and each Committee;
   (b) conduct an annual assessment of the performance and effectiveness of the Chairman and of the Board as a whole (which includes an appraisal by an external expert at least every three years), report to the Board the conclusions and recommendations and assess on a timely basis whether or not Board members are to be proposed for re-election by the AGM;
   (c) ensure that each Committee carries out and oversees a self-assessment of its performance and reports the conclusions and any recommendations for change to the Board; and
   (d) ensure that each Committee is subject to an external assessment every three years; and

(vi) Human resources:
   supervise and approve, together with the Chairman, the succession planning for all GEB members and propose their appointment for approval by the Board (for this purpose, the GNC receives information from the Compensation Committee on its performance evaluation of the GEB members).

8.3 In accordance with section 2.5 of this Committees' charter, at least one of the Vice Chairmen and / or the SID is a member of the GNC. The respective GNC member is required:
(i) together with the GNC, to lead the Board in the ongoing monitoring and annual evaluation of the Chairman; and
(ii) in conjunction with the Chairman and the GNC, to ensure good corporate governance, balanced leadership and control within the Group, the Board and the Committees.

9 Risk Committee

In general

9.1 The function of the RC is to oversee and support the Board in fulfilling its duty to set and supervise an appropriate risk management and control framework in the areas of:
(i) risk management and control, including credit, market and treasury risks as well as legal, compliance and operational risks including conduct risks; and
(ii) balance sheet, treasury and capital management, including funding, liquidity and equity attribution.

The RC considers the potential effects of the aforementioned risks on the Group's reputation.

Responsibilities and authorities

9.2 The RC's responsibilities and authorities are to:
(i) Risk management and control:
   (a) review and propose to the Board the guiding principles and framework for risk management and control (including risk appetite, delegation of risk authorities and major risk limits) relative to UBS's operations, assess management's respective proposals and recommend any required changes to the Board;
   (b) review and approve the risk appetite methodology (including objectives and binding scenarios) relative to the Group's activities and risk profiles, including allocation of responsibilities within the risk management and control framework;
   (c) review and propose to the Board the risk and treasury management section of the annual report of the Group;
   (d) periodically assess the appropriateness of major policies and procedures adopted by the GEB relating to the risk management and control of significant risks;
   (e) review and make recommendations to the Board based on proposals from the GEB in relation to material risk limits and periodically review allocations and authority levels relating to those limits. Material risk limits include those relating to portfolios, concentrations, products, sectors or other categories relevant to the strategy, risk profile and risk capacity of UBS Group AG and the Group as approved by the Board;
   (f) review and approve the principal characteristics of the Group's risk measurement framework (including changes thereto) used to identify, model, measure, monitor and report risks;
   (g) monitor and oversee the risk profile of UBS Group AG and the Group within the context of the Board-determined risk profile, risk capacity and limit structure;
   (h) systematically review high-risk areas of the Group and assess the effectiveness of the steps taken by the GEB to manage or mitigate such risks;
   (i) review and assess the asset and liability management framework, including allocation of responsibilities, limits, capital allocation to BDs and CC, liquidity and funding;
   (j) review regulatory framework reforms affecting areas within the scope of the RC's mandate and recommend any required changes to the Board;
   (k) consider the Group's strategy to deal with anticipated or existing high-level risks and assist the Board by reviewing and assessing management's proposals in relation to strategy;

(l) review management's proposals and as appropriate propose to the Board for approval a global recovery plan and global resolution strategy;
(m) review management's assessments of UBS's legal, compliance, operational and conduct risk exposures and related risk-oriented activity plans;
(n) periodically review material communications (including formal assessments) between UBS and its principal regulators;
(o) review projects and remediation activities (as determined by the RC) undertaken by the management to address critical changes to the risk management / control environment; and
(p) periodically meet with the Compensation Committee to ensure that the compensation framework appropriately reflects risk awareness and management, and ensures appropriate risk-taking;

(ii) Risk reporting:
(a) determine risk reporting requirements that allow for an effective oversight by the RC and communicate changes to report owners if reporting requirements are not met or change;
(b) receive and review risk reports, including reports of management that assess the likelihood of risks materializing, the monitoring of emerging trends via forecasts or stress tests, the adequacy and appropriateness of the internal controls to manage those risks and that contain agreed measures to reduce risks or deal with specific risk situations including stress situations; and
(c) receive periodic updates on limitations that prevent full risk data aggregation in the risk reports; and

(iii) Human Resources:
(a) annually provide input on the performance of the Group CRO, Group CFO, Group GC and the Group CCGO to the Group CEO; and
(b) review and make recommendations to the Board regarding decisions relating to the hiring and dismissal of the Group CRO and the Group CCGO.

10 Further responsibilities and authorities

10.1 The Board may entrust further powers and duties to the Committees by Board resolution. **Further responsibilities and authorities**

11 Delegation to a subcommittee

11.1 Each Committee may delegate some of its tasks to a subcommittee comprised of one or more Committee members. Such delegation shall be recorded in the Committee's minutes and the Chairman must be informed. **Subcommittees**

12 Information rights

12.1 In accordance with the procedure set out in section 8.4 of the OR, each Committee may request any relevant information or special reports from any GEB member or Group IA on matters relating to its respective responsibilities set out in this Committees' charter. **Committees**

12.2 For the information rights of each Board member, see section 8 of the ORs. **Committee members**

13 Meeting with third parties

13.1 The Committees may, in performing their duties, take advice from and meet as a body with third parties. In consultation with the Group CEO, they may meet with regulators. The Committee Chairperson shall inform the Chairman accordingly. **Meeting with third parties**

Meetings and resolutions of the Committees

14 Meetings

14.1 Each Committee meets as often as its business requires, but at least:
(i) four times a year for the AC, the RC and the Compensation Committee; and
(ii) twice a year for the CCRC and the GNC.

Number of meetings

The AC and RC hold at least four joint meetings a year.

The Compensation Committee and RC periodically hold joint meetings.

14.2 Committee meetings are called and held in compliance with the rules set out in the ORs (sections 6.2 to 6.5 and 6.8 of the ORs to be applied mutatis mutandis).

Request, invitation, agenda, notice period, chair, and format

14.3 Each Committee Chairperson may, on their own motion or upon request of any Committee member or the Chairman, invite GEB members as well as other persons to attend Committee meetings. The Group CEO will be informed accordingly.

Presence of third parties at Committee meetings

14.4 The AC holds Committee meetings:
(i) normally with the participation of the Head Group IA, representatives of the external auditors, the Group CEO, the Group CCGO, the Group CFO, the Group Controller & Chief Accounting Officer; and
(ii) periodically, only with the participation of the Head Group IA, the external auditors, or with members of management, or a combination of any of the aforementioned.

Special rules for the AC

14.5 The CCRC holds Committee meetings:
(i) normally with the participation of the Group CEO and the Global Head UBS in society; and
(ii) periodically, with the participation of the Regional Presidents.

Special rules for the CCRC

14.6 The Compensation Committee holds Committee meetings normally with the participation of the Group CEO, the Group Head HR, the Global Head of Reward and external advisors.

Special rules for the Compensation Committee

14.7 Generally, the Group CEO, the Group CFO, the Group CRO, the Group GC, the Group CCGO, the Head Group IA and representatives of the external auditors participate (to the extent necessary) in each meeting of the RC. The invitation of other persons is at the discretion of the RC.

Special rules for the RC

14.8 Generally, the Group CEO, the Group CFO, the Group CRO, the Group GC, the Group CCGO, the Head Group IA and representatives of the external auditors participate (to the extent necessary) in the joint committees' meetings. The joint committees' meetings are chaired by the Chairman.

Special rules for the joint committees' meetings

14.9 Resolutions are passed by an absolute majority of the votes of Committee members present; in case of a tie, the decision is passed on to the Board and decided in accordance with section 7.2 of the ORs. Sections 7.2 to 7.4 of the ORs apply mutatis mutandis with regard to circular resolutions.

Resolutions

14.10 Committee minutes must fulfill the conditions set out in sections 6.9, 6.10 and 7.5 of the ORs and be distributed to the Chairman.

Minutes

15 Resolutions and information rights

15.1 Sections 7, 8.2, 8.3 and 8.4 of the ORs apply mutatis mutandis to the decision-making process and the information rights of the Committees and the Committee members.

Resolutions and information rights

Reporting

16 Regular reporting

16.1 Each Committee Chairperson ensures that the Chairman and the Board are kept informed in a timely and appropriate manner. Each Committee Chairperson (either personally or through another Committee member) regularly reports to the Board at the Board meetings on the current activities of their Committee and on important Committee issues, including all matters falling within the duties and responsibilities of the Board, namely: **In general**

(i) proposals for resolutions to be considered, or other action to be taken by the Board;
(ii) resolutions and decisions made by the Committee and the material considerations that led to such resolutions and decisions; and
(iii) activities and important findings of the Committee.

16.2 Each Committee Chairperson submits, in writing, the proposals and resolutions mentioned in sections 16.1 (i) and (ii) of this Annex to the ORs to the Board unless such proposals are contained in the Committee minutes; the remaining reporting is generally done orally. **Submitting of proposals and recommendations**

16.3 Each Committee annually submits a report to the Board, detailing the activities of the Committee during the previous twelve months. **Annual reporting of the Committees**

17 Special reporting

17.1 Following the completion of the audit and the annual financial statements, the AC Chairperson submits annually to the Chairman, for the attention of the Board: **AC**

(i) the AC's assessment of the qualification, independence and performance of the external auditors;
(ii) the AC's assessment of the design of the Group's internal control system for financial reporting and the coordination and interaction between Group IA and the external auditors; and
(iii) a recommendation regarding the audited financial statements in UBS's annual report.

Special provisions

18 Confidentiality

18.1 The deliberations of the Compensation Committee and GNC are confidential and are to be communicated outside of these Committees only to the extent permitted by the Chairpersons of these Committees. The Chairman is exempted with regard to the confidentiality of deliberations.

Special rule

19 Self-assessment and adequacy review

19.1 Each Committee reviews the adequacy of its charter at regular intervals, but at least annually, and recommends to the GNC any changes considered to be necessary or appropriate. For the self-assessment, section 9 of the ORs is to be applied mutatis mutandis.

Self-assessment and adequacy review

UBS Group AG
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CH-8098 Zurich

ubs.com

Exhibit 1.4

UBS

Organization Regulations

of UBS AG

Valid as of 1 May 2019,
internal

Contents

Abbreviations and definitions

Whenever the context may require, any pronoun shall include the corresponding masculine, feminine and neuter forms.

AC	Audit Committee
AGM	Annual General Meeting of the shareholders of UBS AG
ALCO	Asset and Liability Management Committee
ALM Authorities	Asset and Liability Management Authorities – internal document setting out the high-level delegated authorities within the Group for asset and liability management
AoA	Articles of Association of UBS AG
BD(s)	Business division, organizational units of the business as set out in the UBS Group AG Organization Regulations
Board / BoD	Board of Directors of UBS AG; non-executive Board members who do not perform management functions within UBS AG
Business regulations	Regulations issued by the Executive Board
CC	Corporate Center, which comprises the functions as set out in the UBS Group AG Organization Regulations
CCGO	Chief Compliance and Governance Officer of UBS AG
CFO	Chief Financial Officer of UBS AG
Chairman	The Chairman of the Board
Chairpersons	The Board members who chair the Committees
CO	Swiss Code of Obligations
COO	Chief Operating Officer of UBS AG
Committees	Committees of the Board as set out in section 2.1
Committees' charter	Charter of the Committees of the Board setting out the objectives, composition, authorities and responsibilities of the permanent Committees
Company Secretary	Company Secretary of the Board
Corporate bodies	The Board and bodies of UBS AG exercising delegated Board functions, such as the Committees, the EB, committees established by the EB, IA of UBS AG or other bodies mentioned herein
CRO	Chief Risk Officer of UBS AG
Divisional President / DP	Divisional Presidents are the heads of the respective BD, as set out in the UBS Group AG Organization Regulations
EGM	Extraordinary General Meeting of the shareholders of UBS AG
Executive Board / EB	Executive Board of UBS AG
Financial statements	Quarterly and annual financial statements of UBS AG
FINMA	Swiss Financial Market Supervisory Authority
Functional Head / FH	CFO, COO, CRO, GC and CCGO
GC	General Counsel of UBS AG
GCRG	Group Compliance, Regulatory and Governance
Group CEO	Group Chief Executive Officer
Group IA	Internal Audit of the Group
Head HR	Head Human Resources of UBS AG
HR	Human Resources
IA	Internal Audit of UBS AG under the oversight of the IA Executive UBS AG
IA Executive UBS AG	IA Executive of UBS AG
ORs	Organization Regulations of UBS AG including annexes
Other UBS Entities	Entities of the Group which are neither Significant Group Entities nor Significant Regional Entities
PRA	Prudential Regulation Authority (Bank of England)

President of the EB	President of the Executive Board of UBS AG
RC	Risk Committee
Regional President / RP	Regional Presidents as set out in the UBS Group AG Organization Regulations and in the RP terms of reference
Risk Authorities	Internal document setting out the high-level delegated authorities for risk management and control
Shareholders	Shareholders of UBS AG
Significant Branches	Branches of subsidiaries of the Group subject to enhanced standards of corporate governance with annual operating income / expenses which are material to the Group
Significant Group Entities / SGEs	Individually significant subsidiaries of the Group which are subject to enhanced standards of corporate governance
Significant Regional Entities / SREs	Subsidiaries of the Group subject to enhanced standards of corporate governance with annual operating income / expenses which are material to the Group
SOX	Sarbanes-Oxley Act
Stakeholders	Persons, groups or organizations that have a direct or indirect stake in UBS AG and may, as a result, affect or be affected by UBS AG's actions, objectives and policies
UBS / Group	UBS Group AG and its subsidiaries; the UBS group of companies
UBS AG Entities	All subsidiaries (excluding Special Purpose Entities) which are either wholly or majority, directly or indirectly owned or otherwise controlled by UBS AG and which are intended to be held indefinitely
UBS Group AG	UBS Group AG; the listed parent company of the Group
Vice Chairmen	The Vice Chairmen of the Board as set out in section 11

Introduction

1 Basis and purpose

1.1 These ORs are enacted by the Board of UBS AG pursuant to article 716b of the CO and articles 24 and 26 of the AoA. **Basis**

1.2 The purpose of these ORs is: **Purpose**
(i) to implement and supplement requirements contained in applicable laws, regulations and the AoA having regard to pertinent codes of best practice; and
(ii) to define the functions, responsibilities and authorities of UBS AG's corporate bodies and their members.
Mandatory provisions of applicable laws, rules and regulations or rules contained in the AoA override the ORs.

2 Organization of UBS AG

2.1 UBS AG and its business are organized as follows: **Organization in general**
(i) The Board, under the leadership of the Chairman, has the ultimate responsibility for the direction, supervision and control of UBS AG, performs the other duties described herein or as prescribed by mandatory provisions of law.
The Board is responsible for deciding all matters and taking business decisions where such decisions exceed the authority delegated by the Board to the Committees, the EB or the President of the EB.
(ii) As provided by mandatory law, rules and regulations, the AoA or these ORs, the executive management of UBS AG is delegated to the EB under the leadership of the President of the EB. Under consideration of applicable regulatory requirements, the President of the Executive Board of UBS Switzerland AG may not be a member of the UBS AG EB.
(iii) The following permanent Committees assist the Board in the performance of its responsibilities:
(a) the Audit Committee;
(b) the Compensation Committee; and
(c) the Risk Committee.

2.2 UBS Group AG as the listed parent company of the Group controls directly or indirectly all subsidiaries, including UBS AG, and leads the Group by setting a harmonized strategic direction. UBS Group AG further sets principles and organizational structures to enable efficient and coordinated management of the Group and control of its subsidiaries. Notwithstanding this, the legal independence of UBS AG, including formal decision-making by the corporate bodies as required under applicable constitutional documents, and the provisions of applicable local laws, rules and regulations relating to UBS AG must be observed to the extent legally required. **Group steering**

2.3 UBS AG is a subsidiary of UBS Group AG. As such it may fulfill strategic, financial and management functions not only for itself, but also with respect to the Group. In view of this function, the corporate bodies of UBS AG may have to resolve on matters that pertain both to UBS AG and the Group. To this end, UBS AG: **UBS AG as a subsidiary of UBS Group AG**
(i) develops and implements its business strategies and business plans, as well as appropriate risk management and internal control frameworks, in accordance with strategies, targets and policies defined by the Group;
(ii) manages its subsidiaries in accordance with the UBS entity framework. UBS AG issues the necessary regulations, policies and instructions, ensures logistical support, maintains commensurate control functions and allocates the authority necessary for an orderly and efficient conduct of the business of its subsidiaries; and
(iii) works closely with the business divisions and the Corporate Center of the Group in order to identify and benefit from synergies and to realize earnings potential and cost savings.

2.4 The banking business and support operations of UBS AG are performed by itself and its direct or indirect subsidiaries. Each subsidiary has its own constitutional documents, which must be in line with applicable local laws, rules and regulations. **Banking business of UBS AG**

2.5 Subject to and in accordance with applicable local laws, rules and regulations, corporate bodies are bound to ensure transparency and collaboration within the Group and may have additional responsibilities and reporting lines within the Group in addition to their reporting lines within UBS AG.

Transparency, collaboration and reporting within the Group

Board of Directors

3 Membership

3.1 In consultation with the Chairman, the Board proposes candidates for election by the shareholders. **Election proposal**

3.2 The Board's proposal for election ensures that one-third of the Board members will be independent. For this purpose, independence is determined in accordance with FINMA circular 2017 / 1 "Corporate governance – banks." Furthermore, there must be a sufficient number of Board members who meet the independence criteria for the Committee members set out in the annex "Charter of the Committees of the Board." The Chairman does not need to be independent. **Independence of Board members**

3.3 Each Board member must notify the Chairman immediately if circumstances change in a manner that may affect their independence. **Notification duty**

4 Constitution

4.1 The Board consists of five to twelve Board members as per article 18 of the AoA. **Number of members**

4.2 The term of office for each Board member is one year pursuant to article 19 of the AoA. Subject to election by shareholders, Board members are normally expected to serve for a minimum of three years. No Board member may serve for more than 10 consecutive terms of office, in exceptional circumstances the Board can extend this limit. **Term of office**

4.3 The Board constitutes itself at its first meeting following the AGM. In this meeting **Constitutional meeting**
(i) the Vice Chairmen;
(ii) the Committee Chairpersons; and
(iii) the Committee members
are appointed by the Board.
The Board may remove these Board members from their special functions at any time.

5 Responsibilities and authorities

5.1 In addition to mandatory provisions of law, rules, regulations and the AoA, the Board has the responsibilities and authorities set out in these ORs. **In general**

5.2 The Board is responsible for the overall direction, supervision and control of UBS AG and its management as well as for supervising compliance with applicable laws, rules and regulations. **Supervision**

5.3 The Board has ultimate responsibility for the success of UBS AG and for delivering sustainable shareholder value within a framework of prudent and effective controls and subject to the parameters set by the Group. It decides on UBS AG's strategy and the necessary financial and human resources upon recommendation of the President of the EB and sets UBS AG's values and standards to ensure that its obligations to shareholders and other stakeholders are met. **Ultimate responsibility**

5.4 Taking into account the Group's overall strategy and interests, the Board's ultimate responsibility for strategy and financial success includes in particular: **Strategy and financial success**
(i) deciding the strategy of UBS AG upon recommendation of the President of the EB, taking into account the proposals and alternatives presented;
(ii) approving the risk management and control framework of UBS AG, including the overall risk appetite;
(iii) deciding whether UBS AG should enter substantial new business areas or exit an existing business area, in cases where the entry or exit is not covered by the current approved strategic framework; and
(iv) approving major acquisitions, mergers, disposals or capital expenditure, including decisions on major changes to the company structure, major changes in its Significant Group Entities, and other projects of strategic importance for UBS AG.

5.5 With respect to the ultimate responsibility for the financial situation, the Board has in particular the following duties: **Finance**
(i) approving the applicable accounting standards, financial control frameworks as well as significant changes to them;
(ii) annually reviewing and approving the Three-Year Strategic Plan and One-Year Operating Plan of UBS AG, including the financial objectives and a capital allocation framework as well as the capital and liquidity plans;
(iii) reviewing and approving the annual financial statements of UBS AG and, where applicable, the quarterly financial statements; and
(iv) reviewing and approving the consolidated annual and quarterly financial statements and the consolidated annual report of UBS AG prior to its submission to the AGM.

5.6 The Board is responsible for establishing an appropriate business organization, including in particular: **Organization**
(i) approving and regularly reviewing the governance principles and the management structures as set out herein;
(ii) appointing and removing EB members, the Company Secretary and the IA Executive UBS AG and reviewing their performance;
(iii) overseeing the effectiveness of the business organization and management information system implemented by the EB;
(iv) supervising the internal control system;
(v) approving the charter for IA and monitoring IA; and
(vi) approving the compensation and benefits principles of UBS AG.

5.7 The Board has a duty to convene AGMs and EGMs, prepare the agenda for such meetings and implement resolutions adopted by the shareholders. **Meetings of shareholders**

5.8 In case of financial difficulties or insufficient equity, the Board must undertake all steps required under applicable law. **Loss of equity**

5.9 Within the limits of applicable law, regulations and the AoA, the Board may delegate part of its responsibilities and authorities to: **Delegation**
(i) the Committees;
(ii) individual Board members;
(iii) the EB; and
(iv) individual EB members.

5.10 The Board and the Committees may, in performing their duties, take advice from third parties. **Advice from third parties**

6 Meetings

6.1 The Board meets as often as business requires, and at least six times a year. **Number of meetings**

6.2 Board meetings are convened by the Chairman. Upon written request of any Board member or the President of the EB addressed to the Chairman, he can convene an extraordinary Board meeting in accordance with sections 6.3 and 6.4. **Convening meetings**

6.3 The Chairman or, if absent, one of the Vice Chairmen invites the Board members to the Board meetings. **Invitation**

6.4 The invitation contains the agenda and must be sent to Board members and other attendees as a rule at least five business days prior to the date of the Board meeting together with all necessary supporting material. In exceptional cases, supporting material may be sent later to allow the Board to receive the latest available information. This applies in particular to updates on financial data. **Agenda and notice period**

In time-critical cases (as determined at the Chairman's discretion), a Board meeting may be held and the supporting material may be sent at shorter notice.

6.5 Board meetings are chaired by the Chairman or, if absent, by one of the Vice Chairmen or, in their absence, by another Board member selected by the Board members present. **Chair**

6.6 The Board may hold Board meetings as determined by the Chairman: **Attendees**
(i) with or without the participation of the President of the EB and all or some of the other EB members; and
(ii) with the participation of other persons, who are invited to attend.

6.7 Board meetings may be held in person, by audio or video conference. **Meeting format**

6.8 The minutes (including its annexes as presented to the Board) contain all Board resolutions made and reflect in a general manner the considerations which led to the decisions made. Dissenting opinions of and votes cast by Board members must also be reflected in the minutes. **Minutes of Board meetings**

6.9 The minutes must be signed by the Chairman or the Chairperson and the Company Secretary and must be made available for review prior to the next Board meeting at which these shall be approved. Board members are entitled to examine the minutes of any Board meeting at any time. **Form of minutes, inspection rights**

7 Resolutions

7.1 The presence of either the Chairman or one of the Vice Chairmen as well as of the majority of the Board members is required to pass valid Board resolutions. If this quorum is not present, the Chairman can seek a circular resolution of the Board (see section 7.4). No such quorum is required for decisions confirming, implementing and amending resolutions relating to capital increases (article 22 (2) of the AoA). **Quorum of attendance**

7.2 Board resolutions are passed by an absolute majority of the votes of Board members present; in case of a tie, the Chairman's vote is decisive (article 22 (1) of the AoA). **Quorum of resolutions, decisive vote**

7.3 If time-critical matters arise after a Board meeting has already been convened, such matters may be discussed at the Board meeting and Board resolutions made if a majority of all Board members present agree. **Resolutions on items not on agenda**

7.4 In time-critical cases, Board resolutions may be passed in writing (including by e-mail or other electronic means). A proposal for a circular resolution must be communicated to all Board members and is only deemed to have passed if: **Circular resolutions**

(i) more than two-thirds of all Board members cast a vote or give written notice that they abstain;
(ii) an absolute majority of all Board members casting a vote approve the proposed resolution; and
(iii) no Board member requests a Board meeting in relation to the subject matter of the proposed Board resolution within three business days of receiving notice of the proposal.

7.5 A circular resolution is as binding as a Board resolution adopted at a Board meeting and must be recorded under a separate heading in the Board minutes prepared pursuant to sections 6.8 and 6.9 for the next Board meeting. **Effect of circular resolutions**

8 Information rights

8.1 Board members have access to all information concerning the business and the affairs of UBS AG as may be necessary or helpful for them to fulfill their duties as Board members. **Right of information**

8.2 At Board meetings, any Board member is entitled to request information on any matter relating to UBS AG regardless of the agenda, and the Board or EB members present must provide such information to the best of their knowledge. **Request for information during Board meetings**

8.3 Should a Board member require information or wish to review documents outside a Board meeting, such request must be routed through the Company Secretary and addressed to the Chairman. **Request for information outside of Board meetings**

8.4 Should a Committee Chairperson require information or wish to review documents outside a Committee meeting, they can, within the range of responsibilities of their Committee, address their request to a member of the EB directly, to the IA or external auditors. The Chairman and the President of the EB must be informed accordingly. **Request for information outside of Committee meetings**

9 Self-assessment

9.1 At least annually, the Board reviews its own performance, as well as the performance of each of the Committees. Such a review seeks to determine whether the Board and the Committees function effectively and efficiently. **Board self-assessment**

9.2 In light of the annual performance evaluation, the Board must consider whether any changes should be made to the membership of the Board or Committees. **Performance evaluation**

10 Chairman

10.1 The Board proposes the Chairman who in turn is elected by shareholders at the general meeting. **Election**

10.2 The Chairman leads the Board. He further coordinates the tasks within the Board and, in particular, calls Board meetings and sets their agenda. **In general**

10.3 The Chairman presides over the AGMs and EGMs. **Shareholders' meetings**

10.4 The Chairman coordinates, together with the Committees' Chairpersons, the work of all Committees. In consultation with the relevant Committee Chairperson, the Chairman or one of the Vice Chairmen may attend meetings of the Committees. **Coordination of Committee work and Chairman's attendance**

10.5 The Chairman, together with the President of the EB, is closely involved in and responsible for ensuring effective communication with shareholders and stakeholders, including government officials, regulators and public organizations. **External communication**

The Chairman is the primary representative of the Board and, together with the President of the EB, of UBS AG with the media.

10.6 The Chairman establishes and maintains close working relationships with the President of the EB and the other EB members, providing advice and support to them while respecting that day-to-day management responsibility is delegated to the EB. The Chairman also facilitates a constructive relationship and promotes open communication between the Board and the President of the EB and other EB members. Where appropriate, the Chairman ensures effective challenge of the President of the EB and the EB by the Board and the Committees and fosters ongoing and effective monitoring of performance. **Relationship with Board and EB**

10.7 Further details of the responsibilities and authorities delegated to the Chairman are set out in the annexes to these ORs. **Further responsibilities and authorities**

11 Vice Chairmen

11.1 The Board appoints one or more Vice Chairmen. A Vice Chairman is required to lead the Board in the absence of the Chairman, to provide support and advice to the Chairman and to undertake such specific additional duties or functions as the Board may entrust to him from time to time. **Appointment and authorities**

11.2 Further details of the responsibilities and authorities delegated to the Vice Chairmen are set out in the annexes to these ORs. **Further responsibilities and authorities**

12 Company Secretary

12.1 In the constitutional meeting of the Board, the Board appoints a Company Secretary who acts as secretary to the Board and its Committees. **Appointment and function**

12.2 The Company Secretary prepares the agenda for each Board meeting, keeps the Board minutes and the Committees' minutes and assists the Board and its members in coordinating and fulfilling their duties. In accordance with section 8.3, the Company Secretary coordinates requests for information from the members of the Board outside of Board meetings and informs the President of the EB of such requests accordingly. **Responsibilities and authorities**

12.3 The Company Secretary reports to the Chairman. **Reporting**

12.4 The Company Secretary is responsible for keeping UBS AG's official company documents and records including their certification. **Official documents**

13 Committees

13.1 The Board establishes the AC, the Compensation Committee and the RC as permanent Committees. The Board may set up other Committees, including so-called ad hoc Committees, if deemed appropriate or necessary. **Permanent and other Committees**

13.2 From amongst its members the Board appoints the Committee members and the respective Committee Chairpersons. **Appointment**

13.3 Based on articles 24 and 26 of the AoA, the Board delegates certain responsibilities and authorities to the Committees pursuant to the annexes to these ORs. The overall responsibility for such delegated competences remains with the Board. **Responsibilities and authorities**

Executive Board

14 Delegation

14.1 The Board delegates the executive management of UBS AG as set out in section 2.1 (ii). **Delegation of management**

14.2 The President of the EB and the EB may further delegate certain responsibilities and authorities and may empower further delegation of such responsibilities and authorities. Such delegations must be in writing, and clear rules on responsibilities, authorities and accountabilities must be established. Specific responsibilities and authorities delegated by the EB to a committee of the EB will be set forth in a resolution adopted or a charter approved by the EB. **Further delegation by the EB**

14.3 The EB will establish arrangements to ensure that decisions are made in a time-critical business matter, should the responsible EB member be unable to act. **Time-critical matters**

15 Executive Board

15.1 Under the leadership of the President of the EB, the EB is comprised of the members detailed in sections 17 to 23 of these ORs and such further EB members as appointed by the Board upon proposal of the President of the EB. **Composition and appointment**

15.2 Under the leadership of the President of the EB, the EB has executive management responsibility for UBS AG and its business. This includes, but is not limited to, developing and implementing UBS AG strategies approved by the Board and which take into account the Group's strategies, budgeting, planning and resource allocation, and evaluating and monitoring business performance. This also includes ensuring the efficient use of the financial resources of UBS AG in accordance with Group guidelines, policies and governance over intra-divisional treasury allocations. **Responsibilities and authorities**

The EB develops, implements and maintains an appropriate and adequate business organization designed to ensure compliance with applicable laws and regulations and an appropriate management information system.

The EB is also responsible for ensuring effective management and coordination of issues on behalf of UBS AG which arise from interactions and interdependencies between UBS AG and all entities of the Group or UBS AG and the business divisions or Corporate Center. Notwithstanding this, the legal independence of UBS AG and the provisions of applicable local laws, rules and regulations must be observed to the extent legally required.

15.3 The EB acts as the risk council of UBS AG. It has overall responsibility for establishing and implementing risk management and control within UBS AG. It manages the risk profile of UBS AG as determined by the Board and the RC. The EB determines its requirements for risk reporting, including improvements and changes to the reports, and receives periodic updates on risk data limitations. **EB as risk council**

15.4 Where proposals for decisions must be made to the Board, the EB prepares such proposals and supports the Board in its decision-making process. **Preparation of Board decisions**

15.5 The ALCO is responsible for managing UBS AG's assets and liabilities in line with the UBS AG and Group strategy and regulatory requirements. Further specific responsibilities and authorities delegated by the EB to the ALCO are set forth in its terms of reference. **ALCO as a committee of the EB**

15.6 The EB is furthermore responsible for all management matters not reserved under the AoA or the ORs to any other person or body. **Further duties**

15.7 The EB meets at least once every month or as appropriate. The agenda must be sent to the EB members at least five calendar days prior to the date of the EB meeting together with all necessary supporting material. In time-critical cases, an EB meeting (called by the President of the EB as required or at the request of one EB member addressed to the President of the EB) may be held and the supporting material may be sent on shorter notice. EB meetings are chaired by the President of the EB or, if absent, by the nominated Deputy President of the EB. EB meetings may be held in person, by audio or video conference. **Meetings, agenda and notice period**

15.8 The presence either in person or by audio or video conference of a majority of the EB members is required to pass valid EB resolutions. **Quorum of attendance**

15.9 The resolutions of the EB are passed by the majority of the votes of the EB members present. The President of the EB has the power to overrule any EB resolution. If the President of the EB exercises this power, he must inform the Chairman immediately. **Quorum of resolutions**

15.10 Minutes are taken of all EB meetings. They contain all resolutions made by the EB. The minutes are sent to all EB members and to the Chairman. Board members may inspect the EB minutes in accordance with section 8. **Minutes of EB meetings**

15.11 With respect to circular resolutions of the EB, sections 7.4 (i), 7.4 (ii) and 7.5 apply mutatis mutandis. **Circular resolutions**

15.12 In unpostponable matters, and if it is not feasible to convene an audio or video conference or to proceed by circular resolution within the time available, the President of the EB may, together with two other EB members, make decisions, which have the effect of EB resolutions. EB members who could not be reached in time must be informed together with the Chairman as soon as possible. Section 7.5 applies mutatis mutandis to such resolutions. **Unpostponable matters**

15.13 At least annually, on the basis of an assessment, the President of the EB reviews the performance of the EB. Such a review seeks to determine whether the EB functions effectively and efficiently. In light of the annual performance evaluation, the President of the EB must consider whether any changes should be made to the composition of the EB. **Assessment**

15.14 In addition to the responsibilities for each EB member set out below, further details of the responsibilities and key authorities delegated to the EB members are set out in the annexes to these ORs and the relevant business regulations or Regional President terms of reference. **Further duties of EB members**

16 President of the Executive Board

16.1 The President of the EB is appointed by the Board upon proposal of the Chairman. **Appointment**

16.2 The President of the EB is the highest executive officer of UBS AG and has responsibility and accountability for the management and performance of UBS AG. The President of the EB nominates a deputy from within the EB who is confirmed by the Board. The deputy President of the EB shall temporarily exercise all responsibilities and authorities if the President of the EB should be incapacitated or unavailable to exercise the function as President of the EB. **Function, substitution**

16.3 The President of the EB has the overall day-to-day management responsibility for UBS AG. In particular, he is responsible for: **Main responsibilities and authorities**

(i) convening and presiding over the EB meetings;
(ii) leading the business and strategic planning and forecasting;
(iii) the financial results of UBS AG;
(iv) exercising all authorities allocated to UBS AG which are not otherwise delegated;
(v) providing regular updates on the business to the Group CEO, as required;
(vi) effective management of UBS AG's financial resources, people, infrastructure and risks; and
(vii) ensuring effective collaboration with the Group.

The President of the EB assumes a leading role in preparing the Board's consideration of UBS AG's strategy, risk and compensation principles. Together with the Chairman, he has the responsibility for UBS AG's reputation.

16.4 The President of the EB has an all-encompassing right to information about and examination of all matters handled in the business. He has the power to overrule any decisions made by any management body, including any resolution by the EB (see section 15.9). **Right to overrule decisions**

16.5 The President of the EB ensures that the Chairman and the Board are kept informed in a timely and appropriate manner. The President of the EB (either personally or through any other EB member) regularly informs the Board on the current business development and on important business issues, including all matters falling within the duties and responsibilities of the Board. Such reports must cover: **Reporting to the Board**

(i) key performance indicators and other relevant financial data of UBS AG;
(ii) existing and emerging risks;
(iii) updates on developments in important markets and on peers; and
(iv) information on all issues which may affect the supervisory or control function of the Board.

16.6 Each member of the EB detailed in sections 17 to 23 below reports to the President of the EB as well as reporting into the relevant function within the Group. The Functional Heads have an obligation to advise the Chairman and relevant Committees on significant issues arising in the field of their responsibilities. **Reporting by EB members**

17 Chief Financial Officer

17.1 The CFO has in particular the following responsibilities: **Responsibilities and authorities**

(i) managing UBS AG's financial accounting, controlling, forecasting, planning and reporting processes;
(ii) ensuring transparency in and assessing the financial performance of UBS AG;
(iii) supporting the President of the EB in strategy development and key strategic topics;
(iv) (managing and controlling UBS AG's tax affairs, treasury and capital management, including funding and liquidity risk, and UBS AG's regulatory capital ratios;
(v) ensuring asset and liability management by balancing consumption of UBS AG's financial resources;
(vi) consulting with the AC to make proposals to the Board regarding the standards for accounting to be adopted by UBS AG and defining the standards for financial reporting and disclosure; and
(vii) under the supervision of the AC, coordinating the working relationships with the external auditors.

18 Chief Operating Officer

18.1 The COO has in particular the following responsibilities: **Responsibilities and authorities**

(i) formulating digital transformation and operating strategies, objectives, financial and execution plans for the COO area in support of the BDs and Group functions operating out of UBS AG;
(ii) delivering IT services, tools and infrastructure, including cyber protection and IT security, in line with the needs of the BDs and Group functions operating out of UBS AG;
(iii) delivering a wide range of operational services and standards across all BDs and Group functions operating out of UBS AG;
(iv) supplying real estate infrastructure and general administrative services to UBS AG;
(v) directing and controlling all supply and demand management activities, supporting UBS AG with its third-party sourcing strategies and managing UBS AG's near- / offshore, outsourcing and supplier-related processes; and
(vi) defining and executing a human resources strategy aligned to UBS AG's objectives and positioning UBS AG as employer of choice and providing HR services to employees as well as strategic advice to line managers and EB members.

19 Chief Risk Officer

19.1 The CRO has in particular the following responsibilities: **Responsibilities and authorities**

(i) the development of UBS AG's risk management and control framework (including risk principles and risk appetite) for the credit, market and treasury risk categories, as well as the implementation of independent control frameworks for these risk categories, on the basis of and in accordance with the framework approved by the Board, including:
  (a) developing and implementing frameworks for risk measurement, aggregation, portfolio controls and for risk reporting; and
  (b) taking decisions on transactions, positions, exposures, portfolio limits and allowances in accordance with the risk control authorities delegated to the CRO.
(ii) monitoring and challenging UBS AG's risk-taking activities for the risk categories under CRO responsibility.

20 General Counsel

20.1 The GC has in particular the following responsibilities: **Responsibilities and authorities**

(i) managing UBS AG's legal affairs and ensuring effective and timely assessment of legal matters impacting UBS AG or its businesses;
(ii) providing the legal advice required by UBS AG; and
(iii) management and reporting of all litigation and other significant contentious matters, including all legal proceedings which involve UBS AG;

21 Chief Compliance and Governance Officer

21.1 The CCGO has in particular the following responsibilities: **Responsibilities and authorities**

(i) ensuring that all operational risks, including compliance and conduct risks as well as cyber and information security risks, are identified, owned and managed to the firm's risk appetite, supported by an effective control framework;
(ii) developing UBS AG's governmental policy and regulatory strategy;
(iii) coordinating external governmental and regulatory relations and overseeing strategic regulatory matters including key regulatory change programs across UBS AG;

(iv) overseeing the firm's change initiatives and firm-wide investment governance;
(v) developing global and local recovery and resolution plans and defining adequate resolvability improvement measures;
(vi) developing UBS AG's organization and legal entity structure, as well as corporate governance standards; and
(vii) governing UBS AG's internal and external investigations portfolio and performing important investigations.

22 Regional Presidents

Responsibilities and authorities

22.1 The Regional Presidents have in particular the following responsibilities:
(i) cross-divisional collaboration; and
(ii) representing UBS AG to the broader public in their region.

23 Divisional Presidents

Responsibilities and authorities

23.1 The Divisional Presidents have in particular the following responsibilities:
(i) proposing BD strategies taking into account input from the Regional Presidents;
(ii) the operation and management of their BD; and
(iii) controlling and administering the dedicated financial resources, risk appetite, people and infrastructure of the BD.

Internal Audit

24 Scope, responsibilities, authorities and reporting

24.1 IA is the internal audit function for UBS AG. **Scope**

24.2 IA independently, objectively and systematically assesses in particular the: **Responsibilities**
(i) effectiveness of processes to define strategy and risk appetite as well as the overall adherence to the approved strategy;
(ii) effectiveness of governance processes;
(iii) effectiveness of risk management, including whether risks are appropriately identified and managed;
(iv) effectiveness of internal controls, specifically whether they are commensurate with the risks taken;
(v) soundness of the risk and control culture;
(vi) effectiveness and sustainability of remediation activities, originating from any source;
(vii) reliability and integrity of financial and operational information, including whether activities are properly, accurately and completely recorded, and the quality of underlying data and models; and
(viii) effectiveness of processes to comply with legal and regulatory requirements as well as with internal policies, UBS AG's constitutional documents and contracts, in particular assessing whether such requirements are met, and the adequacy of processes to sustainably meet them.

IA further conducts special audits upon request from the AC, or from other Board members, Committees or the President of the EB in consultation with the AC.

24.3 Details of the role, responsibilities and authorities of IA are set out in the charter for Group IA. The charter is also to be endorsed by the Board for its applicability to UBS AG. **Charter**

24.4 IA possesses unrestricted auditing rights within UBS AG; it has access at all times to all accounts, books, records, systems, property and personnel in order to fulfill its auditing responsibilities. The IA Executive UBS AG has open, direct and unrestricted access to the Chairman, the RC and the AC as well as to the President of the EB. **Access rights**

24.5 IA is independent in determining its activities, in particular when defining audit scope and executing audit engagements. IA reports are not subject to any instructions or restrictions, and its authority to audit is unrestricted. **Independence**

25 IA Executive UBS AG

25.1 The IA Executive UBS AG reports directly to the Chairman. In addition, the IA Executive UBS AG has a functional reporting line to the AC, as well as to the Head of Group IA, as set forth in the AC charter. **Reporting**

The IA Executive UBS AG must inform the AC of the results of the annual internal audit plan and the status of annual internal audit objectives and must be in regular contact with the AC.

25.2 The IA Executive UBS AG is appointed by the Board in consultation with the Chairman and the AC, based on a proposal by the Head of Group IA. **Appointment**

Special provisions

26 Authority to sign

26.1 Signing in the name of UBS AG requires two authorized signatures to be binding. Any employee of UBS AG having one of the following ranks or functions is authorized to sign, jointly with another authorized signatory, on behalf of UBS AG: **In general**

(i) the Chairman and each of the Vice Chairmen;
(ii) each of the EB members;
(iii) the IA Executive UBS AG and the Company Secretary;
(iv) each of the Group Managing Directors;
(v) each of the Managing Directors, Executive Directors and Directors or senior employees with equivalent ranks;
(vi) each of the Associate Directors (including "Prokuristen," as applicable); and
(vii) for specified locations, each of the Authorized Officers (including "Handlungsbevollmächtigte," as applicable).

26.2 The GC issues a signing policy for UBS AG, specifying all details, including the scope of signature authorities and possible extensions, exceptions to the joint signature authority principle, and the possibility for signatories of the Group to sign on behalf of UBS AG. In addition, UBS AG Entities establish their own rules, according to mandatory provisions of local law, rules and regulations. **Signing policy**

27 Form of signature

27.1 All authorized signatories sign by adding their signature to the name of the legal entity on whose behalf they act. **Signature form**

28 Conduct of Board and EB members

28.1 Each member of the Board and the EB is under a duty to carry out their responsibilities with due care and to safeguard and further the interests of UBS AG and of all of its shareholders. **Duty of care and loyalty**

28.2 The Board and EB members arrange their personal and business affairs, including their affairs with regard to a related person or company, so as to avoid, as much as possible, an actual or potential conflict of interest. **Conflicts of interest**

28.3 Each Board member must disclose to the Chairman, and each EB member must disclose to the President of the EB any conflict of interest generally arising or relating to any matter to be discussed at a meeting, as soon as the Board or EB member becomes aware of its existence. **Disclosure of conflict of interest**

28.4 Unless exceptional circumstances dictate that in the best interests of UBS AG a Board or EB member with a conflict of interest shall not participate in the discussions and decision-making involving the interest at stake, the Board or EB member with a conflict of interest shall participate in discussions and: **Procedural measures**

(i) a double vote (a vote with and a vote without the conflicted individual) shall take place;
(ii) a binding decision on the matter requires the same outcome in both votes;
(iii) the Chairman or the President of the EB must advise the respective Corporate body of the conflict of interest; and
(iv) the existence of the conflict must be recorded in the meeting minutes.

In the event of doubt, the Chairman or the President of the EB shall request the respective Corporate body to determine whether a conflict of interest or exceptional circumstances exist.

28.5 Except for information already in the public domain, each Board and EB member shall keep all information relating to UBS AG learned during the performance of their duties strictly confidential at all times. Such information may only be disclosed to third parties with prior written clearance from the Chairman or the President of the EB. This obligation and duty continues even after the term of office of the Board or EB member has expired for as long as the relevant information remains confidential. **Duty of confidentiality**

28.6 If a Board or EB member becomes aware of the fact that they may receive a financial or non-financial benefit other than any salary, remuneration or other benefit from UBS AG, as a result of employment with UBS AG, that person must: **Benefits of Board and EB members**

(i) promptly inform the Board, in the case of a Board member or the President of the EB; and

(ii) promptly inform the President of the EB, in the case of EB member other than the President of the EB.

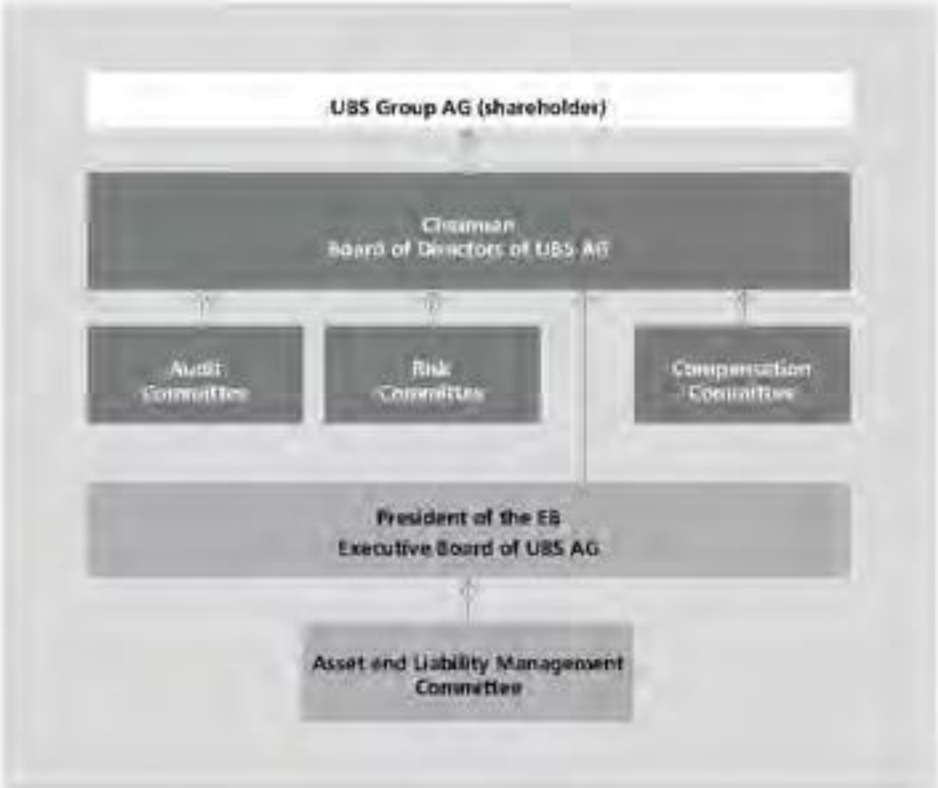
29 Entry into force, amendments

29.1 These ORs replace the former regulations of 1 March 2018 governing the internal organization of UBS AG and come into effect on 1 May 2019, based on a Board resolution of UBS AG dated 21 February 2019. **Entry into force**

29.2 These ORs may be amended by the Board only with the approval of FINMA. **Amendments**

Annex – *Organizational chart of UBS AG*

Organizational chart of UBS AG



Annex – *Charter of the Committees of the Board*

Contents

Introduction

1 Basis and purpose

1.1 This Committees' charter is enacted by the Board pursuant to articles 716–716b CO, articles 24 and 26 of the AoA and sections 5.9 and 13.3 of the ORs. **Basis**

1.2 The purpose of this Committees' charter is to set out the objectives, composition and responsibilities of the permanent Board Committees, being: **Purpose**
(i) the Audit Committee;
(ii) the Compensation Committee; and
(iii) the Risk Committee.

Membership and constitution

2 Number of Committee members and their independence

2.1 Each Committee must have at least three Committee members. **Minimum number of Committee members**

2.2 Each Committee must consist of members of the Board, and all members of each Committee must be independent as defined by section 3.2 of the ORs. **Independence**

At least one member of the RC must also be a member of the Compensation Committee.

2.4 The Chairman may attend the meetings of Committees in consultation with the relevant Committee Chairperson. **Presence of the Chairman**

3 Constitution

3.1 The Committee Chairperson and the Committee members are appointed pursuant to section 4.3 of the ORs, and the Board may remove any Committee member or any Committee Chairperson at any time. Should a vacancy arise on any Committee, even if the minimum number of Committee members pursuant to 2.1 of this Committees' charter is still met, the Board may appoint the missing member from among its members for the remaining term of office. **Appointment and removal by the Board**

Responsibilities and authorities

4 Delegation of responsibilities and authorities

In general

4.1 Pursuant to section 13.3 of the ORs, the Committees have the responsibilities and authorities set out in the annexes to the ORs.

5 Audit Committee

In general

5.1 The function of the AC is to support the Board in fulfilling its oversight duty relating to financial reporting and internal controls over financial reporting, the effectiveness of the external and internal audit functions as well as of whistleblowing procedures.

Management is responsible for the preparation, presentation and integrity of the financial statements, while the external auditors are responsible for auditing financial statements. The AC's responsibility is one of oversight and review.

Responsibilities and authorities

5.2 The AC's responsibilities and authorities are to:

(i) Financial statements:

(a) monitor the integrity of the financial statements and any announcements related to financial performance, and review significant financial reporting judgements contained in them, before recommending their approval to the Board;

(b) advise the Board on whether the annual report and financial statements, taken as a whole, are fair, balanced and understandable, and provide the information necessary for shareholders to assess the company's position and performance, business model and strategy;

(c) review the organization and completeness of the financial-reporting process including UBS AG's internal control system and procedures as they relate to the integrity of the financial statements, taking into account the reports provided by the EB, the external auditors, IA, regulators or other information as determined by the Committee to be appropriate;

(d) review management's SOX 404 report in relation to internal controls over financial reporting;

(e) review significant accounting policies and practices, and compliance with accounting standards; and

(f) review arrangements for compliance with UBS AG's legal, regulatory and other requirements (including tax matters) as they relate to the integrity of the financial statements or financial report;

(ii) External audit:

(a) oversee the relationship with and assess the qualifications, expertise, effectiveness, independence and performance of the external auditors and their lead audit partner; support the Board in reaching a decision in relation to the appointment, reappointment or dismissal of the external auditors and the rotation of the lead audit partner;

(b) approve the engagement letter of the external auditors, including the scope of the audit and the fees and terms for the planned audit work;

(c) oversee all audit and permitted non-audit services provided by the external auditors and establish such policies as the Committee deems appropriate;

(d) annually review the external auditors' summary of adjusted and unadjusted differences; and

(e) review the regulatory audit plan and the results of regulatory audits;

(iii) IA:

(a) monitor and assess the effectiveness, independence and performance of the IA Executive UBS AG and IA;

(b) approve IA's annual audit plan and objectives including subsequent important amendments;

(c) monitor IA's discharge of its annual audit objectives; and

(d) order special audits to be conducted either by IA or by mandating third parties and review and approve such request from other Board members, Committees or the President of the EB;

(iv) Whistleblowing and Investigations:

(a) review the effectiveness of the firm's whistleblowing policies and procedures and ensure that appropriate whistleblowing mechanisms are in place;

(b) review on a quarterly basis the levels of new and pending whistleblowing cases and reports on complaints made regarding accounting, auditing or other matters;
(c) review on a quarterly basis reports on internal investigations; and
(d) conduct or direct any investigation, including the retention of external advisors and consultants (at UBS AG's expense), as it considers necessary in order to discharge its responsibilities;
(v) Human Resources:
(a) annually provide input on the performance of the CFO, GC, CRO and CCGO to the President of the EB; and
(b) review and make recommendations to the Board regarding decisions relating to the hiring and dismissal of the CFO.

6 Compensation Committee

In general

6.1 The function of the Compensation Committee is to support the Board in its duties to set guidelines on compensation and benefits, to oversee implementation thereof, to approve certain compensation and to scrutinize executive performance.

Responsibilities and authorities

6.2 The Compensation Committee's responsibilities and authorities are to:
(i) Compensation strategy and guidelines:
(a) periodically review the compensation strategy and guidelines and propose any material amendments to the Board for approval; and
(b) evaluate the effectiveness of pay for performance across UBS AG;
(ii) Performance targets:
(a) establish, together with the Chairman, financial and non-financial performance targets for the President of the EB;
(b) review, upon the recommendation from the President of the EB, financial and non-financial performance targets for the other EB members; and
(c) inform the Board of the outcome of the review of such performance targets;
(iii) Performance evaluation:
(a) in consultation with the Chairman, review the performance of the President of the EB in meeting agreed targets;
(b) review the President of the EB's performance assessment of the other EB members in meeting agreed targets; and
(c) inform the Board of the individual performance assessments of the EB members;
(iv) Compensation plans and governance:
(a) approve key terms of the compensation programs and plans for the non-independent Board members and EB members;
(b) propose the key terms of new or amended equity plans with significant use of UBS Group AG shares to the Board for approval;
(c) approve key terms of new or amended compensation plans and other compensation arrangements with a material financial, reputational or strategic impact;
(d) be informed on new or materially amended pension and benefits plans that have a material financial, reputational or strategic impact;
(e) approve standard contracts / employment agreements and standard termination agreements for non-independent Board members and, together with the Chairman, for EB members; approve all material individual variations to such agreements and the compensation plan rules, regardless of the participant's current status;
(f) approve the engagement of any external advisors / consultants retained by the Committee and the funding for those services; consider certain factors relevant to the advisors' independence from management;
(g) approve material public disclosures on UBS AG compensation matters;
(h) approve the share ownership policy for EB members;
(i) annually review compensation structures with HR and the risk management function to ensure they do not encourage excessive or unnecessary risk-taking;
(j) periodically meet with the RC to ensure that the compensation framework appropriately reflects risk awareness and management, and ensures appropriate risk-taking; and
(k) monitor major regulatory developments, shareholder initiatives and best practices in executive compensation;
(v) Other compensation competences:
(a) for employees within UBS AG, approve aggregated and / or total individual compensation of certain employees (including independent control functions) based on regulatory requirements; and
(b) review business performance and other variables that impact annual variable compensation; and
(vi) Other competences related to specific regulatory requirements:
(a) review and approve the Remuneration Policy Statement to be submitted annually to the PRA;
(b) review and approve as appropriate any information provided to UBS AG shareholders with respect to the approval of the ratio between variable and fixed compensation for employees in the European Union; and

(c) make recommendations as appropriate where it becomes aware of any event or matter that would justify the operation of malus or clawback for UBS AG London Branch staff in accordance with compensation plan rules.

7 Risk Committee

In general

7.1 The function of the RC is to oversee and support the Board in fulfilling its duty to supervise and set an appropriate risk management and control framework in the areas of:

(i) risk management and control, including credit, market, and treasury risks as well as legal, compliance and operational risks including conduct risks; and

(ii) balance sheet, treasury and capital management, including funding, liquidity and equity attribution.

The RC considers the potential effects of the aforementioned risks on UBS AG's reputation.

Responsibilities and authorities

7.2 The RC's responsibilities and authorities are to:

(i) Risk management and control:

(a) review and propose to the Board the guiding principles and framework for risk management and control (including risk appetite, delegation of risk authorities and major risk limits) relative to UBS AG's operations, assess management's respective proposals and recommend any required changes to the Board;

(b) review and approve the risk appetite (including objectives and binding scenarios) relative to UBS AG's activities and risk profiles, including allocation of responsibilities within the risk management and control framework;

(c) review and propose to the Board the risk and treasury management section of the annual report of UBS AG;

(d) periodically assess the appropriateness of major policies and procedures adopted by the EB relating to the risk management and control of significant risks;

(e) review and make recommendations to the Board based on proposals from the EB in relation to material risk limits and periodically review allocations and authority levels relating to those limits. Material risk limits include those relating to portfolios, concentrations, products, sectors or other categories relevant to the strategy, risk profile and risk capacity of UBS AG as approved by the Board;

(f) review and approve the principal characteristics of UBS AG's risk measurement framework (including changes thereto) used to identify, model, measure, monitor and report risks;

(g) monitor and oversee the risk profile of UBS AG within the context of the Board-determined risk profile, risk capacity and limit structure;

(h) systematically review high-risk areas of UBS AG and assess the effectiveness of the steps taken by the EB to manage or mitigate such risks;

(i) review and assess the asset and liability management framework, liquidity and funding;

(j) review regulatory framework reforms affecting areas within the scope of the RC's mandate and recommend any required changes to the Board;

(k) consider UBS AG's strategy to deal with anticipated or existing high-level risks and assist the Board by reviewing and assessing management's proposals in relation to strategy;

(l) review management's assessments of UBS AG's legal, compliance, operational and conduct risk exposures and related risk-oriented activity plans;

(m) periodically review material communications (including formal assessments) between UBS AG and its principal regulators;

(n) review projects and remediation activities (as determined by the RC) undertaken by the management to address critical changes to the risk management / control environment; and

(o) periodically meet with the Compensation Committee to ensure that the compensation framework appropriately reflects risk awareness and management, and ensures appropriate risk-taking;

(ii) Risk reporting:

(a) determine risk reporting requirements that allow for an effective oversight by the RC and communicate changes to report owners if reporting requirements are not met or change;

(b) receive and review risk reports, including reports of management that assess the likelihood of risks materializing, the monitoring of emerging trends via forecasts or stress tests, the adequacy and appropriateness of the internal controls to manage those risks and that contain agreed measures to reduce risks or deal with specific risk situations including stress situations; and

(c) receive periodic updates on limitations that prevent full risk data aggregation in the risk reports; and

(iii) Human Resources:

(a) annually provide input on the performance of the CRO, CFO, GC and CCGO to the President of the EB; and

(b) review and make recommendations to the Board regarding decisions relating to the hiring and dismissal of the CRO and the CCGO.

8 Further responsibilities and authorities

8.1 The Board may entrust further powers and duties to the Committees by Board resolution. **Further responsibilities and authorities**

9 Delegation to a subcommittee

9.1 Each Committee may delegate some of its tasks to a subcommittee comprised of one or more Committee members. Such delegation shall be recorded in the Committee's minutes and the Chairman must be informed. **Subcommittees**

10 Information rights

10.1 In accordance with the procedure set out in section 8.4 of the OR, each Committee may request any relevant information or special reports from any EB member or IA on matters relating to its respective responsibilities set out in this Committees' charter. **Committees**

10.2 For the information rights of each Board member, see section 8 of the ORs. **Committee members**

11 Meeting with third parties

11.1 The Committees may, in performing their duties, take advice from and meet as a body with third parties. In consultation with the President of the EB, they may meet with regulators. The Committee Chairperson shall inform the Chairman accordingly. **Meeting with third parties**

Meetings and resolutions of the Committees

12 Meetings

12.1 Each Committee meets as often as its business requires, but at least four times a year for the AC, the Compensation Committee and the RC. **Number of meetings**

The AC and RC hold at least four joint meetings a year.

The Compensation Committee and RC periodically hold joint meetings.

12.2 Committee meetings are called and held in compliance with the rules set out in the ORs (sections 6.2 to 6.5 and 6.7 of the ORs to be applied mutatis mutandis). **Request, invitation, agenda, notice period, chair and format**

12.3 Each Committee Chairperson may, on their own motion or upon request of any Committee member or the Chairman, invite EB members as well as other persons to attend Committee meetings. The President of the EB will be informed accordingly. **Presence of third parties at Committee meetings**

12.4 The AC holds Committee meetings: **Special rules for the AC**

(i) normally with the participation of the IA Executive UBS AG, representatives of the external auditors, the President of the EB, the CCGO, the CFO, the Controller & Chief Accounting Officer; and

(ii) periodically, only with the participation of the IA Executive UBS AG, the external auditors, or with members of management, or a combination of any of the aforementioned.

12.5 Generally, the President of the EB, the CFO, the CRO, the GC, the CCGO, the IA Executive UBS AG and representatives of the external auditors participate (to the extent necessary) in each meeting of the RC. The invitation of other persons is at the discretion of the RC. **Special rules for the RC**

12.6 Generally, the President of the EB, the CFO, the CRO, the GC, the CCGO, the IA Executive UBS AG and representatives of the external auditors participate (to the extent necessary) in the joint committees' meetings. The joint committees' meetings are chaired by the Chairman. **Special rules for the joint committees' meetings**

12.7 Resolutions are passed by an absolute majority of the Committee members present; in case of a tie, the decision is passed on to the Board and decided in accordance with section 7.2 of the ORs. Sections 7.2 and 7.4 of the ORs apply mutatis mutandis with regard to circular resolutions. **Resolutions**

12.8 Committee minutes must fulfill the conditions set out in sections 6.8, 6.9 and 7.5 of the ORs and be distributed to the Chairman. **Minutes**

13 Resolutions and information rights

13.1 Sections 7, 8.2, 8.3 and 8.4 of the ORs apply mutatis mutandis to the decision-making process and the information rights of the Committees and the Committee members. **Resolutions and information rights**

Reporting

14 Regular reporting

14.1 Each Committee Chairperson ensures that the Chairman and the Board are kept informed in a timely and appropriate manner. Each Committee Chairperson (either personally or through another Committee member) regularly reports to the Board at the Board meetings on the current activities of their Committee and on important Committee issues, including all matters falling within the duties and responsibilities of the Board, namely: **In general**

(i) proposals for resolutions to be considered, or other action to be taken by the Board;
(ii) resolutions and decisions made by the Committee and the material considerations that led to such resolutions and decisions; and
(iii) activities and important findings of the Committee.

14.2 Each Committee Chairperson submits, in writing, the proposals and resolutions mentioned in sections 14.1 (i) and (ii) of this annex to the Board unless such proposals are contained in the Committee minutes; the remaining reporting is generally done orally. **Submitting of proposals and recommendations**

14.3 Each Committee annually submits a report to the Board, detailing the activities of the Committee during the previous twelve months. **Annual reporting of the Committees**

15 Special reporting

15.1 Following the completion of the audit and the annual financial statements, the AC Chairperson submits annually to the Chairman, for the attention of the Board: **AC**

(i) the AC's assessment of the qualification, independence and performance of the external auditors;
(ii) the AC's assessment of the design of UBS AG's internal control system for financial reporting and the coordination and interaction between IA and the external auditors; and
(iii) a recommendation regarding the audited financial statements in UBS AG's annual report.

Special provisions

16 Confidentiality

Special rule

16.1 The deliberations of the Compensation Committee are confidential and are to be communicated outside of the Committee only to the extent permitted by the Chairperson. The Chairman is exempted with regard to the confidentiality of deliberations.

17 Self-assessment and adequacy review

Self-assessment and adequacy review

17.1 Each Committee reviews the adequacy of its charter at regular intervals, but at least annually, and recommends to the Board any changes considered to be necessary or appropriate. For the self-assessment, section 9 of the ORs is to be applied mutatis mutandis.

UBS AG
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ubs.com

UBS

Exhibit 4.17

High-trigger loss-absorbing additional tier 1 capital instrument

Issuer	UBS Group AG
ISIN	CH0488506673
Issue Date	27.08.2019
Currency	AUD
Nominal (million)	700.0
Interest Rate	4.375% [1]
Maturity Date	perpetual
First Call Date	27.08.2024

[1] Rate subject to change after first call date.

TERMS AND CONDITIONS OF THE NOTES

The terms and conditions of the Tier 1 Capital Notes issued by UBS Group AG are as follows:

1. DEFINITIONS

"**5-Year Semi Quarterly Mid-Swap Rate**" means, in relation to a Reset Interest Period and the Reference Rate Determination Date in relation to such Reset Interest Period and subject to clause (c) of Condition 4 (*Interest*) :

(a) the 5-Year AUD Semi-Semi Mid-Swap Reference Rate for such Reference Rate Determination Date, adjusted on a quarterly basis by referencing the mid-market arithmetic mean of bid and offered 3-month vs 6-month basis swap for a period of five years appearing on the Relevant Quarterly Basis Screen Page at the Relevant Time on such Reference Rate Determination Date, as determined by the Calculation Agent on such Reference Rate Determination Date; or

(b) if such 5-Year AUD Semi-Semi Mid-Swap Reference Rate does not appear on the Screen Page at the Relevant Time on such Reference Rate Determination Date, or such basis swap does not appear on the Relevant Quarterly Basis Screen Page at the Relevant Time on such Reference Rate Determination Date, the Reset Reference Bank Rate on such Reference Rate Determination Date.

"**5-Year AUD Semi-Semi Mid-Swap Reference Rate**" means, in relation to any Reference Rate Determination Date, the mid-market arithmetic mean, expressed as a percentage and rounded, if necessary, to the nearest 0.001 per cent. (0.0005 per cent. being rounded upwards) of bid and offered swap rates for AUD swap transactions with a maturity of five years displayed on the Screen Page at the Relevant Time on such Reference Rate Determination Date.

"**5-Year Mid-Swap Rate Quotations**" means the arithmetic mean of the bid and offered rates provided by the relevant Reset Reference Bank at which fixed-for-floating swaps in the AUD swap market are offered and bid by it at approximately Relevant Time on the relevant Reset Determination Date to participants in the AUD swap market for a period of five years, with a semi-annual fixed leg and a quarterly floating leg.

"**Additional Amounts**" has the meaning assigned to such term in clause (b) of Condition 8 (*Taxation*).

"**Additional Tier 1 Capital**" means, at any time, any item that qualifies as additional tier 1 capital (*zusätzliches Kernkapital*) under National Regulations at such time.

"**Adjustment Spread**" means, with respect to any Alternative Benchmark Rate determined in accordance with the provisions of clause (c) of Condition 4 (*Interest*), a spread (which may be positive or negative), or a formula or methodology for calculating such a spread, applied to such Alternative Benchmark Rate in order to reduce or eliminate, to the extent reasonably practicable in the circumstances, any economic prejudice or benefit (as applicable) to Holders as a result of the replacement of the 5-Year Semi Quarterly Mid-Swap Rate with such Alternative Benchmark Rate.

"**Affected Reset Interest Period**" has the meaning assigned to such term in subclause (c)(i) of Condition 4 (*Interest*).

"**Agency Agreement**" means the Agency Agreement dated as of the Issue Date, among the Issuer, the Principal Paying Agent, the Calculation Agent and the other agents from time to time party thereto, as amended, supplemented or otherwise modified from time to time.

"**Alignment Event**" has the meaning assigned to such term in clause (a) of Condition 11 (*Substitution and Amendment*).

"**Alternative Benchmark Rate**" has the meaning assigned to such term in subclause (c)(i) of Condition 4 (*Interest*).

"**Alternative Loss Absorption Date**" has the meaning assigned to such term in clause (f) of Condition 6 (*Contingent Write-down*).

"**Alternative Relevant Page**" has the meaning assigned to such term in clause (c)(v)(A) of Condition 4 (*Interest*).

"**Alternative Relevant Time**" has the meaning assigned to such term in clause (c)(v)(A) of Condition 4 (*Interest*).

"**AUD**" means Australian dollars.

"**Auditor**" means the accounting firm (i) appointed by the Board of Directors of the Group Holding Company or the shareholders of the Group Holding Company, as the case may be, to provide, among other things, audit and/or review opinions on the Group Holding Company's financial statements, and (ii) approved by the FINMA in accordance with the Financial Market Supervisory Act (*Finanzmarktaufsichtsgesetz*) of 22 June 2007, as amended from time to time.

"**Authorised Signatories**" means any two authorised officers of the Issuer signing jointly.

"**Balance Sheet Date**" means (i) with respect to any Ordinary Publication Date, the cut-off date for the measurement of the CET1 Ratio in the Quarterly Financial Accounts published on such Ordinary Publication Date, and (ii) with respect to any Extraordinary Publication Date, the cut-off date for the Reviewed Interim Measurement published upon the instruction of the FINMA on such Extraordinary Publication Date.

"**Bankruptcy Event**" means any of the following events with respect to the Issuer: (i) the adjudication of bankruptcy (*Konkurseröffnung*) pursuant to articles 171, 189, 190, 191 or 192 of the DEBA, including, without limitation, in connection with article 725a of the Swiss Code, (ii) the granting of a provisional or definitive stay of execution (*provisorische oder definitive Nachlassstundung*) pursuant to article 293 et seq. of the DEBA, (iii) the ordering of restructuring proceedings (*Sanierungsverfahren*) pursuant to articles 28 to 32 of the FBA or pursuant to any successor or analogous Swiss law or regulation applicable to bank holding companies in Switzerland such as UBS Group AG, and/or (iv) the ordering of liquidation proceedings (*Liquidation*) pursuant to articles 33 to 37g of the FBA or pursuant to any successor or analogous Swiss law or regulation applicable to bank holding companies in Switzerland such as UBS Group AG; *provided*, *however*, that none of the following will constitute a Bankruptcy Event: (x) mere debt collection proceedings (*Betreibungsverfahren*) pursuant to article 38 *et seq.* of the DEBA, (y) proceedings in connection with a freezing order (*Arrestverfahren*) pursuant to article 271 *et seq.* of the DEBA, and/or (z) the institution of protective measures (*Schutzmassnahmen*) pursuant to article 26 of the FBA or pursuant to any successor or analogous Swiss law or regulation applicable to bank holding companies in Switzerland such as UBS Group AG, including, in the case of each of subclauses (x), (y) and (z), any steps (other than any steps described in clauses (i) through (iv) of this definition) taken under or in connection therewith.

"**BIS Regulations**" means, at any time, the capital adequacy standards and guidelines promulgated by the Basel Committee on Banking Supervision, as implemented by the FINMA in Switzerland at such time.

"**BIS Risk Weighted Assets**" means, as of any Balance Sheet Date, the aggregate amount, in US dollars, of risk-weighted assets of the Group as of such Balance Sheet Date, as determined by the Group Holding Company pursuant to the BIS Regulations applicable to the Group Holding Company as of such Balance Sheet Date, and as (i) disclosed in the Quarterly Financial Accounts published on the relevant Ordinary Publication Date or (ii) may be disclosed as a component of the Reviewed Interim Measurement published upon the instruction of the FINMA on the relevant Extraordinary Publication Date, as applicable. For the avoidance doubt, the term "**risk-weighted assets**" as used in this definition has the meaning assigned to such term in the BIS Regulations in effect as of the relevant Balance Sheet Date.

"**Business Day**" means a day (other than a Saturday or a Sunday) on which commercial banks and foreign exchange markets settle payments and are open for general business (including, without limitation, dealing in foreign exchange and foreign currency deposits) in London, Sydney and Zurich.

"**Calculation Agent**" means UBS AG, in its capacity as calculation agent for the Notes, and includes any successor Calculation Agent appointed in accordance with the terms of the Agency Agreement.

"**Calculation Amount**" means AUD 200,000.

"**Calculation Period**" means the relevant period for which interest is to be calculated from (and including) the first day in such period to (but excluding) the last day in such period.

"**Capital Adequacy Ordinance**" means the Ordinance concerning Capital Adequacy and Risk Diversification for Banks and Securities Dealers, which entered into force on 1 January 2013, and as amended from time to time, or any successor Swiss law or regulation.

"**CET1 Capital**" means, as of any Balance Sheet Date, the aggregate amount, in US dollars, of items that constitute common equity tier 1 capital of the Group as of such Balance Sheet Date, less any deductions from common equity tier 1 capital required to be made, in each case as determined by the Group Holding Company pursuant to the BIS Regulations applicable to the Group Holding Company as of such Balance Sheet Date, and as (i) disclosed in the Quarterly Financial Accounts published on the relevant Ordinary Publication Date or (ii) may be disclosed as a component of the Reviewed Interim Measurement published upon the instruction of the FINMA on the relevant Extraordinary Publication Date, as applicable. For the avoidance of doubt, the term "**common equity tier 1 capital**" as used in this definition has the meaning assigned to such term in the BIS Regulations in effect as of the relevant Balance Sheet Date.

"**CET1 Ratio**" means, as of any Balance Sheet Date, the CET1 Capital as of such Balance Sheet Date, divided by the BIS Risk Weighted Assets as of such Balance Sheet Date, expressed as a percentage, such ratio (or the components thereof) as determined by the Group Holding Company, and (i) as disclosed in the Quarterly Financial Accounts published on the relevant Ordinary Publication Date or (ii) constituting (or as disclosed in) the Reviewed Interim Measurement published upon the instruction of the FINMA on the relevant Extraordinary Publication Date, as applicable.

"**Compliant Securities**" means securities issued by UBS Group AG or any of its subsidiaries that have economic terms not materially less favourable to a Holder than these Terms and Conditions (as reasonably determined by the Issuer), provided that

(a) such securities (A) include terms that provide for the same interest rate and principal from time to time applying to the Notes, (B) rank *pari passu* with the Notes and (C) preserve any existing rights under these Terms and Conditions to any accrued and unpaid interest that has not been satisfied;

(b) where such securities are issued by a subsidiary of UBS Group AG, UBS Group AG has irrevocably and unconditionally guaranteed to the holders of the relevant security, on a subordinated basis corresponding *mutatis mutandis* to Condition 3 (*Status and Subordination*), the due and punctual payment of all amounts due and payable by such subsidiary under, or in respect of, such securities pursuant to article 111 of the Swiss Code;

(c) where the Notes that have been substituted or amended were listed immediately prior to their substitution or amendment, the relevant securities are listed on (A) the SIX Swiss Exchange or (B) such other internationally recognised stock exchange selected by the Issuer; and

(d) where the Notes that have been substituted or amended were rated by a rating agency immediately prior to such substitution or amendment, each such rating agency has ascribed, or announced its intention to ascribe and publish, an equal or higher rating to the relevant securities.

"**Contingent Write-down**" means the events described in subclauses (i) through (iii) of clause (d) of Condition 6 (*Contingent Write-down*).

"**Day Count Fraction**" means, in respect of any period, the number of days from (and including) the most recent Interest Payment Date (or, if none, the Issue Date) to (but excluding) the last day of such period divided by the product of the number of days in the Interest Period in which such period falls (including the first such day but excluding the last such day) and 2.

"**DEBA**" means the Swiss Federal Debt Enforcement and Bankruptcy Act of 11 April 1889, as amended from time to time.

"**Distributable Items**" means, in respect of an Interest Payment Date, the aggregate of (i) net profits carried forward and (ii) freely distributable reserves, in each case, less any amounts that must be contributed to legal reserves under applicable law, all in UBS Group AG's reporting currency and as appearing in the Relevant Accounts.

"**Event of Default**" has the meaning assigned to such term in clause (a) of Condition 10 (*Events of Default*).

"**Existing Benchmark Component**" has the meaning assigned to such term in clause (c) of Condition 4 (*Interest*).

"**Extraordinary Publication Date**" means the Business Day on which a Reviewed Interim Measurement is published upon the instruction of the FINMA, after the FINMA has determined that the conditions for issuing a Trigger Event Write-down Notice in accordance with Condition 6 (*Contingent Write-down*) have been met.

"**Extraordinary Trigger Event Notice Date**" has the meaning assigned to such term in subclause (b)(i) of Condition 6 (*Contingent Write-down*).

"**FBA**" means the Swiss Federal Act on Banks and Savings Institutions of 8 November 1934, as amended from time to time.

"**FINMA**" means the Swiss Financial Market Supervisory Authority FINMA and any successor thereto.

"**First Call Date**" means 27 August 2024.

"**Fixed Interest Rate**" means 4.375 per cent. per annum.

"**Former Residence**" has the meaning assigned to such term in subclause (a)(v) of Condition 13 (*Issuer Substitution*).

"**Going-Concern LR Requirement**" means a requirement under National Regulations for systemically relevant banks (*systemrelevante Banken*) to hold a minimum amount of going-concern capital (*Eigenmittel zur ordentlichen Weiterführung der Bank*), which amount is set by reference to the leverage ratio (*Höchstverschuldungsquote*) of such bank.

"**Going-Concern RWA Requirement**" means a requirement under National Regulations for systemically relevant banks (*systemrelevante Banken*) to hold a minimum amount of going-concern capital (*Eigenmittel zur ordentlichen Weiterführung der Bank*), which amount is set by reference to the risk weighted assets (*risikogewichtete Positionen*) of such bank.

"**Group**" means, at any time, the Group Holding Company and all its subsidiaries and other entities that are included in the Group Holding Company's consolidated capital adequacy reports prepared pursuant to National Regulations.

"**Group Holding Company**" means, at any time, the top Swiss holding company at such time of the financial group to which UBS Group AG belongs for purposes of preparing consolidated capital adequacy reports pursuant to National Regulations. As at the Issue Date, the Group Holding Company is UBS Group AG.

"**Higher-Trigger Amount**" means, as of any Publication Date, the sum of (i) the maximum portion of the aggregate principal amount, in US dollars, of all Higher-Trigger Contingent Capital, if any, outstanding on the relevant Balance Sheet Date that could be converted into equity and/or fully or partially written down, or otherwise operate to increase the CET1 Capital, if a Higher-Trigger

Write-down/Conversion Notice were delivered in accordance with the terms thereof, and (ii) the maximum portion of the aggregate principal amount, in US dollars, of all Higher-Trigger Contingent Capital, if any, issued after the relevant Balance Sheet Date, but prior to such Publication Date, that could be converted into equity and/or fully or partially written down, or otherwise operate to increase the CET1 Capital, if a Higher-Trigger Write-down/Conversion Notice were delivered in accordance with the terms thereof, in the case of each of clauses (i) and (ii), as determined by UBS Group AG. For purposes of clause (ii) of this definition and, in the case of an Extraordinary Publication Date, clause (i) of this definition, the aggregate principal amount of any Higher-Trigger Contingent Capital that is not denominated in US dollars will be converted into US dollars at the applicable prevailing exchange rate on the last Business Day preceding the relevant Publication Date, as determined by UBS Group AG. In the case of an Ordinary Publication Date, for purposes of clause (i) of this definition, the aggregate principal amount of any Higher-Trigger Contingent Capital that is not denominated in US dollars will be converted into US dollars at the applicable exchange rate used for such purposes in the relevant Quarterly Financial Accounts.

"**Higher-Trigger Contingent Capital**" means any instrument issued by, or any other obligation of, any member of the Group that (i) is issued or owed to holders that are not members of the Group and (ii) is required pursuant to its terms to be converted into equity and/or fully or partially written down, or otherwise operating to increase the CET1 Capital, when the CET1 Ratio (or equivalent capital measure of the Group described in the terms and conditions thereof) falls below a threshold that is higher than the Write-down Threshold (with respect to the relevant Higher-Trigger Contingent Capital, its "**Higher-Trigger Threshold**").

"**Higher-Trigger Threshold**" has the meaning assigned to such term in the definition of the term "**Higher-Trigger Contingent Capital**".

"**Higher-Trigger Write-down/Conversion Date**" has the meaning assigned to such term in the definition of the term "Higher-Trigger Write-down/Conversion Notice".

"**Higher-Trigger Write-down/Conversion Notice**" means a notice delivered pursuant to the terms of any Higher-Trigger Contingent Capital that notifies the holders thereof that the CET1 Ratio (or similar measure or other event described in the terms and conditions of such Higher-Trigger Contingent Capital) has fallen below its Higher-Trigger Threshold and, consequently, that such Higher-Trigger Contingent Capital will be converted into equity and/or fully or partially written down, or otherwise operate to increase the CET1 Capital, as applicable, as of a particular date (such date, the "**Higher-Trigger Write-down/Conversion Date**"). For the avoidance of doubt, if the terms and conditions of such Higher-Trigger Contingent Capital permit the FINMA to waive the conversion into equity and/or write-down of such Higher-Trigger Contingent Capital notwithstanding the fact that the CET1 Ratio (or similar measure or other event described in the terms and conditions of such Higher-Trigger Contingent Capital) has fallen below Higher-Trigger Threshold, the non-issuance of such a waiver by the FINMA between the relevant Publication Date and the Trigger Event Notice Date shall be deemed equivalent to the delivery of a Higher-Trigger Write-down/Conversion Notice for purposes of subclause (b)(ii) of Condition 6 (*Contingent Write-down*).

"**Holder**" means, with respect to any Note, the person or persons holding such Note in a securities account (*Effektenkonto*) that is in its or their name, or, in the case of intermediaries (*Verwahrungsstellen*), the intermediary or intermediaries holding the Notes for its or their own account in a securities account (*Effektenkonto*) that is in its or their name.

"**Independent Adviser**" means an independent financial institution of international repute or other independent financial adviser experienced in the international capital markets, in each case, appointed by the Issuer at its own expense.

"**Independent Adviser Determination Cut-off Date**" has the meaning assigned to such term in subclause (c)(i) of Condition 4 (*Interest*).

"**Interest Payment Date**" has the meaning assigned to such term in subclause (a)(ii) of Condition 4 (*Interest*).

"**Interest Period**" means each period beginning on (and including) an Interest Payment Date (or, in the case of the first Interest Period, the Issue Date) and ending on (but excluding) the next Interest Payment Date.

"**Interest Rate**" means the Fixed Interest Rate and/or Reset Interest Rate, as the case may be.

"**Intermediary**" has the meaning assigned to such term in clause (b) of Condition 2 (*Amount and Denomination; Form and Transfer*).

"**Intermediated Securities**" has the meaning assigned to such term in clause (b) of Condition 2 (*Amount and Denomination; Form and Transfer*).

"**Issue Date**" means 27 August 2019.

"**Issuer**" means UBS Group AG in its capacity as issuer of the Notes.

"**Junior Obligations**" means (i) all classes of share capital and participation securities (if any) of the Issuer and (ii) all other obligations of the Issuer that rank, or are expressed to rank, junior to claims in respect of the Notes and/or any Parity Obligation.

"**Margin**" means 3.590 per cent. per annum.

"**National Regulations**" means, at any time, (i) the Swiss national banking and capital adequacy laws, and (ii) the capital adequacy regulations promulgated by the Swiss Federal Council (*Bundesrat*) or the FINMA and the interpretation thereof by the FINMA or any other competent Swiss authority, in the case of each of clauses (i) and (ii), directly applicable to UBS Group AG (and/or, if different, the Group Holding Company) and/or the Group at such time.

"**New Residence**" has the meaning assigned to such term in subclause (a)(i)(E) of Condition 13 (*Issuer Substitution*).

"**Notes**" means the AUD 700,000,000 4.375 per cent. Tier 1 Capital Notes issued by the Issuer on the Issue Date.

"**Ordinary Publication Date**" means each Business Day on which Quarterly Financial Accounts are published.

"**Ordinary Shares**" means the registered ordinary shares of UBS Group AG.

"**Ordinary Trigger Event Notice Date**" has the meaning assigned to such term in subclause (b)(i) of Condition 6 (*Contingent Write-down*).

"**Parity Obligations**" means (i) all obligations of the Issuer in respect of Tier 1 Instruments (excluding any such obligations that rank, or are expressed to rank, junior to claims in respect of the Notes), and (ii) any other securities or obligations (including, without limitation, any guarantee, credit support agreement or similar undertaking) of the Issuer that rank, or are expressed to rank, *pari passu* with claims in respect of the Notes and/or any Parity Obligation.

"**Paying Agent**" has the meaning assigned to such term in clause (b) of Condition 7 (*Payments*).

"**Payment Business Day**" means a day (other than a Saturday or a Sunday) on which commercial banks and foreign exchange markets settle payments and are open for general business (including, without limitation, dealing in foreign exchange and foreign currency deposits) in London and Sydney.

"**Permitted Transactions**" means:

(a) repurchases, redemptions or other acquisitions of any Ordinary Shares in connection with (x) any employment contract, benefit plan or similar arrangement with, or for the benefit of, any employees, officers, directors or consultants of any member of the Group, (y) a dividend reinvestment or shareholder share purchase plan or (z) the issuance of any Ordinary Shares (or securities convertible into, or exercisable for, Ordinary Shares) as consideration for an acquisition consummated by any member of the Group;

(b) market-making in Ordinary Shares as part of the securities business of any member of the Group;

(c) purchases of fractional interests in any Ordinary Shares pursuant to the conversion or exchange provisions of (x) such Ordinary Shares or (y) any security convertible into, or exercisable for, Ordinary Shares;

(d) redemptions or repurchases of Ordinary Shares pursuant to any shareholders' rights plan; and

(e) distributions in cash or in kind on, or repurchases, redemptions or other acquisitions of, any Ordinary Shares as a part of any solvent reorganisation, reconstruction, amalgamation or merger of any member of the Group, so long as such member (or the successor entity resulting from such reorganisation, reconstruction, amalgamation or merger) continues to be a member of the Group.

"**Principal Paying Agent**" means UBS AG, in its capacity as principal paying agent for the Notes, and includes any successor Principal Paying Agent appointed in accordance with the terms of the Agency Agreement.

"**Public Sector**" means the government of, or a governmental agency or the central bank in, the country of incorporation of the Group Holding Company.

"**Publication Date**" means an Ordinary Publication Date or an Extraordinary Publication Date, as the case may be.

"**Quarterly Financial Accounts**" means (i) the financial statements of the Group (including, without limitation, the notes thereto) in respect of a financial quarter published by the Group Holding Company, which have been reviewed by the Auditor in accordance with the International Standards on Auditing; *provided, however*, that, if the financial statements of the Group in respect of the last quarter of any year are not so reviewed, the term "Quarterly Financial Accounts" in respect of such quarter will mean instead the annual financial statements of the Group (including, without limitation, the notes thereto) in respect of such year, which have been audited by the Auditor in accordance with the International Standards on Auditing and are published in the annual report of the Group Holding Company for such year, or (ii) in the event that the Group does not publish quarterly financial statements as described in clause (i) of this definition, the financial disclosures published by the Group pursuant to and in compliance with FINMA Circular 2016/01 "Capital Adequacy Disclosures Banks", as amended from time to time, or pursuant to and in compliance with any successor circular or regulation applicable to the Group Holding Company, *provided* that such financial disclosures are published for each financial quarter and the interim earnings included in such disclosures have been reviewed by the Auditor in accordance with International Standards on Auditing.

"**Redemption Date**" has the meaning assigned to such term in subclause (e)(i) of Condition 5 (*Redemption and Purchase*).

"**Redemption Notice**" has the meaning assigned to such term in subclause (e)(i) of Condition 5 (*Redemption and Purchase*).

"**Reference Rate Determination Date**" means, in relation to a Reset Interest Period, the day falling two Business Days prior to the Reset Date on which such Reset Interest Period commences.

"**Regulatory Event**" has the meaning assigned to such term in subclause (d)(ii) of Condition 5 (*Redemption and Purchase*).

"**Relevant Accounts**" means, in respect of any Interest Payment Date, the most recently published audited unconsolidated annual financial statements of UBS Group AG prepared in accordance with the Swiss Code.

"**Relevant Date**" means, with respect to any payment, (i) the date on which such payment first becomes due under the Notes (the "**Scheduled Due Date**"), or (ii) if the full amount of the money payable on the Scheduled Due Date has not been received by the Principal Paying Agent on or before the Scheduled Due Date, the date on which the full amount of the money due on the Scheduled Due Date has been received by the Principal Paying Agent.

"**Relevant Quarterly Basis Screen Page**" means Bloomberg Page IAUS15 or such other page as may replace it on Bloomberg or, as the case may be, on such other information service that may replace Bloomberg, in each case, as may be nominated by the person providing or sponsoring the information appearing there for the purpose of displaying equivalent or comparable basis swaps in the AUD swap market.

"**Relevant Time**" means 10:30 a.m. (Sydney time).

"**Relevant Swiss Issuer**" means, at any time, any bank, or any member of a banking group (including, without limitation, the Group), that is subject to a Going-Concern LR Requirement and a Going-Concern RWA Requirement at such time.

"**Reset Date**" means the First Call Date and each day that falls on the fifth anniversary of the immediately preceding Reset Date.

"**Reset Interest Amount**" has the meaning assigned to such term in clause (b) of Condition 4 (*Interest*).

"**Reset Interest Period**" means each period from (and including) any Reset Date and ending on (but excluding) the next Reset Date.

"**Reset Interest Rate**" means, in relation to any Reset Interest Period, the sum of the Margin and the 5-Year Semi Quarterly Mid-Swap Rate in relation to such Reset Interest Period.

"**Reset Reference Bank Rate**" means, in relation to a Reset Interest Period and the Reference Rate Determination Date in relation to such Reset Interest Period, the rate determined on the basis of the 5-Year Mid-Swap Rate Quotations provided by the Reset Reference Banks to the Calculation Agent at approximately the Relevant Time on such Reference Rate Determination Date. If at least three such quotations are provided, the Reset Reference Bank Rate will be the arithmetic mean of the quotations provided, eliminating the highest quotation (or, in the event of equality, one of the highest) and the lowest quotation (or, in the event of equality, one of the lowest). If only two such quotations are provided, the Reset Reference Bank Rate will be the arithmetic mean of the quotations provided. If only one such quotation is provided, the Reset Reference Bank Rate will be the quotation provided. If no quotations are provided, the Reset Reference Bank Rate for the relevant Reset Interest Period will be equal to the last available 5-Year Semi Quarterly Mid-Swap Rate as determined by the Calculation Agent.

"**Reset Reference Banks**" means four leading swap dealers in the AUD swap market, as selected by the Issuer after consultation with the Calculation Agent.

"**Reviewed Interim Measurement**" means an interim measurement of the CET1 Ratio, with respect to which the Auditor has performed procedures in accordance with the International Standard on Related Services (and relevant Swiss standards and practices) applicable to agreed-upon procedures engagements.

"**Scheduled Due Date**" has the meaning assigned to such term in the definition of the term "Relevant Date".

"**Screen Page**" means Bloomberg Page IAUS10 or such other page as may replace it on Bloomberg or, as the case may be, on such other information service that may replace Bloomberg, in each case, as may be nominated by the person providing or sponsoring the information appearing there for the purpose of displaying rates comparable to the relevant components of the 5-Year AUD Semi-Semi Mid-Swap Reference Rate.

"**Senior Obligations**" means all obligations of the Issuer that are unsubordinated or that are subordinated and do not constitute either Junior Obligations or Parity Obligations.

"**Substitute Issuer**" has the meaning assigned to such term in clause (a) of Condition 13 (*Issuer Substitution*).

"**Substitution Documents**" has the meaning assigned to such term in subclause (a)(iv) of Condition 13 (*Issuer Substitution*).

"**Substitution or Amendment Effective Date**" has the meaning assigned to such term in subclause (a)(iii) of Condition 11 (*Substitution and Amendment*).

"**Substitution or Amendment Notice**" has the meaning assigned to such term in subclause (a)(iii) of Condition 11 (*Substitution and Amendment*).

"**Swiss Code**" means the Swiss Code of Obligations, as amended from time to time.

"**Tax Event**" has the meaning assigned to such term in subclause (c)(ii) of Condition 5 (*Redemption and Purchase*).

"**Tax Jurisdiction**" means Switzerland.

"**Taxes**" has the meaning assigned to such term in clause (a) of Condition 8 (*Taxation*).

"**Tier 1 Capital**" means Additional Tier 1 Capital or any item that qualifies as common equity tier 1 capital pursuant to National Regulations.

"**Tier 1 Instruments**" means any and all (i) securities or other obligations (other than Tier 1 Shares) issued by UBS Group AG or (ii) shares, securities, participation securities or other obligations (other than Tier 1 Shares) issued by a subsidiary of UBS Group AG and having the benefit of a guarantee, credit support agreement or similar undertaking of UBS Group AG, each of which shares, securities, participation securities or other obligations described in clauses (i) and (ii) of this definition qualify, or are issued in respect of a security that qualifies, as Tier 1 Capital of the Group and/or UBS Group AG (without regard to quantitative limits on such capital) on a consolidated (*Finanzgruppe*) or on an unconsolidated (*Einzelinstitut*) basis.

"**Tier 1 Shares**" means all classes of share capital and participation certificates (if any) of UBS Group AG or any subsidiary of UBS Group AG that qualify as common equity tier 1 capital of the Group and/or UBS Group AG under National Regulations on a consolidated (*Finanzgruppe*) or on an unconsolidated (*Einzelinstitut*) basis.

"**Trigger Breach Determination Date**" has the meaning assigned to such term in subclause (b)(i) of Condition 6 (*Contingent Write-down*).

"**Trigger CET1 Ratio**" means, as of any Publication Date, (i) the sum of (x) the CET1 Capital as of the relevant Balance Sheet Date and (y) the Higher-Trigger Amount as of such Publication Date, divided by (ii) the BIS Risk Weighted Assets as of the relevant Balance Sheet Date, expressed as a percentage.

"**Trigger Event**" has the meaning assigned to such term in subclause (a)(ii) of Condition 6 (*Contingent Write-down*).

"**Trigger Event Notice Date**" means an Ordinary Trigger Event Notice Date or an Extraordinary Trigger Event Notice Date, as the case may be.

"**Trigger Event Write-down Date**" has the meaning assigned to such term in the definition of the term "**Trigger Event Write-down Notice**".

"**Trigger Event Write-down Notice**" means, with respect to any Publication Date, a notice (i) stating that (x) the Trigger CET1 Ratio as of such Publication Date is less than the Write-down Threshold, and (y) a Contingent Write-down will take place and (ii) specifying the date on which the Contingent Write-down will take place, which date shall, subject to postponement pursuant to subclause (b)(ii) of Condition 6 (*Contingent Write-down*), be no later than ten Business Days after the date of such notice (the "**Trigger Event Write-down Date**").

"**Viability Event**" has the meaning assigned to such term in subclause (c)(ii) of Condition 6 (*Contingent Write-down*).

"**Viability Event Write-down Date**" has the meaning assigned to such term in subclause (c)(i) of Condition 6 (*Contingent Write-down*).

"**Viability Event Write-down Notice**" has the meaning assigned to such term in subclause (c)(ii) of Condition 6 (*Contingent Write-down*).

"**Write-down Date**" means, with respect to any Contingent Write-down, the Trigger Event Write-down Date or Viability Event Write-down Date, as applicable.

"**Write-down Notice**" means, with respect to any Contingent Write-down, the relevant Trigger Event Write-down Notice or Viability Event Write-down Notice, as applicable.

"**Write-down Notice Date**" means, with respect to any Contingent Write-down, the date of the relevant Write-down Notice.

"**Write-down Threshold**" means 7 per cent.

2. AMOUNT AND DENOMINATION; FORM AND TRANSFER

(a) Amount and denomination

The initial aggregate principal amount of the Notes will be AUD 700,000,000. The Notes will be issued to Holders in minimum denominations of AUD 200,000 and integral multiples of AUD 200,000 in excess thereof. The principal amount of the Notes may be written down in the circumstances and in the manner described in Condition 6 (*Contingent Write-down*). The Notes may only be held and transferred in minimum denominations of AUD 200,000 and integral multiples of AUD 200,000 in excess thereof.

(b) Uncertificated securities

The Notes are issued in uncertificated form as uncertificated securities (*Wertrechte*) in accordance with article 973c of the Swiss Code. The uncertificated securities (*Wertrechte*) will be created by the Issuer by means of a registration in its register of uncertificated securities (*Wertrechtebuch*). Such uncertificated securities will then be entered into the main register (*Hauptregister*) of SIX SIS Ltd or any other intermediary in Switzerland recognised for such purposes by SIX Swiss Exchange Ltd (SIX SIS Ltd or any such other intermediary, the "**Intermediary**"). Once the uncertificated securities are registered in the main register (*Hauptregister*) of the Intermediary and entered into the accounts of one or more participants of the Intermediary, the Notes will constitute intermediated securities (*Bucheffekten*) within the meaning of the Swiss Federal Intermediated Securities Act (*Bucheffektengesetz*) ("**Intermediated Securities**").

So long as the Notes are Intermediated Securities, the Notes may only be transferred by the entry of the transferred Notes in a securities account of the transferee.

The records of the Intermediary will determine the number of Notes held through each participant in the Intermediary.

Neither the Issuer nor any Holder nor any other person shall at any time have the right to effect or demand the conversion of the uncertificated securities (*Wertrechte*) into, or the delivery of, a global note (*Globalurkunde*) or definitive Notes (*Wertpapiere*).

3. STATUS AND SUBORDINATION

(a) Status

The Notes constitute direct, unsecured and subordinated obligations of the Issuer and rank *pari passu* and without any preference among themselves. The rights and claims of the Holders against the Issuer under the Notes are subordinated as described in clause (b) of this Condition 3.

(b) Subordination

In the event of (i) a Bankruptcy Event or (ii) an order being made, or an effective resolution being passed, for the liquidation or winding-up of the Issuer (except, in any such case, a solvent liquidation or winding-up of the Issuer solely for the purposes of a reorganisation, reconstruction or amalgamation of the Issuer or the substitution in place of the Issuer of a successor in business to the Issuer, the terms of which reorganisation, reconstruction, amalgamation or substitution (x) have previously been approved by a valid resolution of the Holders and (y) do not provide that the Notes shall become redeemable in accordance with these Terms and Conditions), the rights and claims of the Holders against the Issuer in respect of or arising under (including, without limitation, any damages awarded for breach of any obligation under) the Notes will, subject to any obligations that are mandatorily preferred by law, rank (A) junior to the rights and claims of all holders of Senior Obligations, (B) *pari passu* with the rights and claims of holders of Parity Obligations and (C) senior to the rights and claims of holders of Junior Obligations.

(c) Claims subject to a Contingent Write-down

Any claim of any Holder in respect of or arising under the Notes (including, without limitation, any claim in relation to any unsatisfied payment obligation of the Issuer subject to enforcement by any Holder pursuant to Condition 10 (*Events of Default*) or in relation to the occurrence of any other Event of Default) will be subject to, and superseded by, clause (d) of Condition 6 (*Contingent Write-down*), irrespective of whether the relevant Write-down Notice has been given prior to or after the occurrence of an Event of Default or any other event.

4. INTEREST

(a) Interest Payment Dates

(i) Subject to Condition 6 (*Contingent Write-down*) and clause (i) of this Condition 4, the Notes will bear interest on their principal amount (A) from (and including) the Issue Date to (but excluding) the First Call Date, at the Fixed Interest Rate, and (B) thereafter, at the applicable Reset Interest Rate.

(ii) Subject to Condition 6 (*Contingent Write-down*) and clause (j) of this Condition 4, interest on the Notes will be payable semi-annually in arrear on 27 August and 27 February of each year (each, an "**Interest Payment Date**"), commencing on 27 February 2020.

(b) Determination of 5-Year Semi Quarterly Mid-Swap Rate in relation to a Reset Interest Period

With respect to each Reset Interest Period and subject to clause (c) of this Condition 4, the Calculation Agent will, as soon as practicable after the Relevant Time on the Reference Rate Determination Date in relation to such Reset Interest Period, determine the 5-Year Semi Quarterly Mid-Swap Rate and the Reset Interest Rate for such Reset Interest Period and calculate the amount of interest payable per Calculation Amount on the Interest Payment Date in relation to each Interest Period falling in such Reset Interest Period (each, a "**Reset Interest Amount**").

(c) Benchmark replacement

If the Issuer (in consultation with the Calculation Agent) determines prior to any Reference Rate Determination Date that one or more components of the rate referred to in clause (a) of the definition of 5-Year Semi Quarterly Mid-Swap Rate (each an "**Existing Benchmark Component**") has been discontinued, then the following provisions shall apply (subject to the subsequent operation of this clause (c)):

(i) the Issuer shall use reasonable endeavours to appoint an Independent Adviser to determine in the Independent Adviser's discretion, in accordance with subclause (iv) below, an alternative rate (the "**Alternative Benchmark Rate**", which, for the avoidance of doubt, may consist of more than one component including one or more of the Existing Benchmark Components) no later than three

Business Days prior to the Reference Rate Determination Date relating to the next succeeding Reset Interest Period (such Business Day, the "**Independent Adviser Determination Cut-off Date**", and such next succeeding Reset Interest Period, the "**Affected Reset Interest Period**") for purposes of determining the 5-Year Semi Quarterly Mid-Swap Rate in respect of the Affected Reset Interest Period and all Reset Interest Periods thereafter;

(ii) if prior to the Independent Adviser Determination Cut-off Date the Issuer is unable to appoint an Independent Adviser or the Independent Adviser appointed by the Issuer fails to determine an Alternative Benchmark Rate in accordance with subclause (iv) below, then the Issuer (in consultation with the Calculation Agent) may determine in its discretion, in accordance with subclause (iv) below, the Alternative Benchmark Rate for purposes of determining the 5-Year Semi Quarterly Mid-Swap Rate in respect of the Affected Reset Interest Period and all Reset Interest Periods thereafter;

(iii) if subclause (ii) above applies and the Issuer is unable or unwilling to determine the Alternative Benchmark Rate prior to the Reference Rate Determination Date relating to the Affected Reset Interest Period in accordance with subclause (iv) below, the 5-Year Semi Quarterly Mid-Swap Rate in respect of the Affected Reset Interest Period shall be equal to 5-Year Semi Quarterly Mid-Swap Rate in respect of the immediately preceding Reset Interest Period (or, if there is no preceding Reset Interest Period, the Reset Interest Rate applicable to the Affected Reset Interest Period will be equal to the Fixed Interest Rate); *provided, however,* that, if this subclause (iii) applies to the Affected Reset Interest Period, the Reset Interest Rate for all succeeding Reset Interest Periods shall be the Reset Interest Rate applicable to the Affected Reset Interest Period as determined in accordance with this subclause (iii) unless (A) the Issuer, in its sole discretion, elects to determine an Alternative Benchmark Rate in respect of any such succeeding Reset Interest Period and all Reset Interest Periods thereafter in accordance with the processes set out in this clause (c), and (B) an Alternative Benchmark Rate is so determined;

(iv) in the case of any determination of an Alternative Benchmark Rate pursuant to subclause (i) or (ii) above, the Alternative Benchmark Rate shall be such rate as the Independent Adviser or the Issuer (in consultation with the Calculation Agent and acting in good faith and a commercially reasonable manner), as applicable, determines in its reasonable discretion has replaced the 5-Year Semi Quarterly Mid-Swap Rate in customary market usage, or, if the Independent Adviser or the Issuer, as applicable, determines in its reasonable discretion that there is no such rate, such other rate as the Independent Adviser or the Issuer (in consultation with the Calculation Agent and acting in good faith and a commercially reasonable manner) determines in its reasonable discretion is most comparable to the 5-Year Semi Quarterly Mid-Swap Rate; and

(v) if the Independent Adviser or the Issuer determines an Alternative Benchmark Rate in accordance with the above provisions of this clause (c),

(A) the Independent Adviser (in the case of subclause (2) below, in consultation with the Issuer) or the Issuer (as the case may be) shall also, following consultation with the Calculation Agent, determine in its reasonable discretion (1) the method for obtaining the Alternative Benchmark Rate, including the screen page(s) on or source(s) from which the Alternative Benchmark Rate (or each of its components) appears or is obtained (the "**Alternative Relevant Page**"), and the time at which the Alternative Benchmark Rate (or each of its components) appears on, or is obtained from, the Alternative Relevant Page (the "**Alternative Relevant Time**"), (2) whether to apply an Adjustment Spread to the Alternative Benchmark Rate and, if so, the Adjustment Spread, which Adjustment Spread must be recognised or acknowledged as being in customary market usage in international debt capital markets transactions that reference the 5-Year Semi Quarterly Mid-Swap Rate (in the manner determined as of the issue date of the Notes), where such rate has been replaced by the Alternative Benchmark Rate, and (3) any alternative method for determining the 5-Year Semi Quarterly Mid-Swap Rate if such Alternative Benchmark Rate is unavailable on the relevant Reset Determination Date, which alternative method shall be consistent with any Alternative Benchmark Rate that has broad market support;

(B) for the Affected Reset Interest Period and all Reset Interest Periods thereafter, (1) clause (a) of the definition of 5-Year Semi Quarterly Mid-Swap Rate shall be amended as contemplated in clause (b) of Condition 11 (*Substitution and Amendment*) to give effect to the determination described in subclause (A)(1) above and any Adjustment Spread determined pursuant to subclause (A)(2) above, and (2) clause (b) of the definition of 5-Year Semi Quarterly Mid-Swap Rate shall be amended pursuant to clause (b) of Condition 11 (*Substitution and Amendment*) to give effect to the determination described in subclause (A)(3) above;

(C) references to the Screen Page and/or the Relevant Quarterly Basis Screen Page and to the Relevant Time in these Terms and Conditions shall be deemed to be references to the Alternative Relevant Page and the Alternative Relevant Time;

(D) if any changes to the definitions of Day Count Fraction, Business Day, Payment Business Day and/or Reference Rate Determination Date are necessary in order to implement the amendments described in subclause (B) above and, if so, such definitions shall be amended as contemplated in clause (b) of Condition 11 (*Substitution and Amendment*) to reflect such changes; and

(E) the Issuer shall promptly give notice to the Holders in accordance with Condition 12 (*Notices*) specifying the Alternative Benchmark Rate (including any Adjustment Spread determined pursuant to subclause (A)(2) above), the Alternative Relevant Page, the Alternative Relevant Time, any alternative method for determining the 5-Year Semi Quarterly Mid-Swap Rate described in subclause (A)(3) above, and any amendments implemented pursuant to clause (b) of Condition 11 (*Substitution and Amendment*) as described in subclause (D) above.

(d) Publication of Reset Interest Rate and interest amount payable upon redemption

With respect to each Reset Interest Period, as soon as practicable after such determination but in any event not later than the relevant Reset Date, the Calculation Agent will cause (i) the relevant Reset Interest Rate and the relevant Reset Interest Amount determined by it, together with the Interest Payment Date in relation to each Interest Period falling in such Reset Interest Period, to be notified to the Issuer and the Paying Agents and (ii) the relevant Reset Interest Rate determined by it to be notified to any stock exchange or other relevant authority on which the Notes are at the relevant time listed and to be published in accordance with Condition 12 (*Notices*).

The Calculation Agent shall calculate any interest amount payable on the Redemption Date (if the Notes are to be redeemed pursuant to Condition 5 (*Redemption and Purchase*) and cause such interest amount to be notified to Issuer and the Paying Agents and to any stock exchange or other relevant authority on which the Notes are at the relevant time listed and to be published in accordance with Condition 12 (*Notices*) no later than two Business Days prior to the Redemption Date.

(e) Calculation of amount of interest per Calculation Amount

Subject to Condition 6 (*Contingent Write-down*) and clause (j) of this Condition4:

(i) the amount of interest payable per Calculation Amount on each Interest Payment Date from the Issue Date to (but excluding) the First Call Date in respect of the Notes will be calculated by:

(A) applying the Fixed Interest Rate to the Calculation Amount;

(B) multiplying the product thereof by the Day Count Fraction; and

(C) rounding the resulting figure to the nearest cent (half a cent being rounded upwards); and

(ii) if interest is required to be paid in respect of a Note on any other date (including, for the avoidance of doubt, the Reset Interest Amount), the amount of interest payable per Calculation Amount will be calculated by:

(A) applying the applicable Interest Rate to the Calculation Amount;

(B) multiplying the product thereof by the Day Count Fraction; and

(C) rounding the resulting figure to the nearest cent (half a cent being rounded upwards).

(f) Calculation of amount of interest per Note

Subject to Condition 6 (*Contingent Write-down*) and clause (j) of this Condition 4, the amount of interest payable in respect of a Note will be the product of:

(i) the amount of interest per Calculation Amount; and

(ii) the number by which the Calculation Amount is required to be multiplied to equal the denomination of such Note.

(g) Notifications, etc. to be final

All notifications, opinions, determinations, certificates, calculations, quotations and decisions given, expressed, made or obtained for the purposes this Condition 4, whether by the Reset Reference Banks (or any of them) or the Calculation Agent, will (in the absence of wilful default, bad faith and manifest error) be binding on the Issuer, the Calculation Agent, the Paying Agents and the Holders and (in the absence of wilful default and bad faith) no liability to the Issuer or the Holders will attach to the Reset Reference Banks (or any of them) or the Calculation Agent in connection with the exercise or non-exercise by the Calculation Agent of its powers, duties and discretions under this Condition 4.

(h) Calculation Agent

So long as any Note is outstanding, the Issuer will at all times maintain a Calculation Agent. If the Calculation Agent is unable or unwilling to act as such or if the Calculation Agent fails to (i) duly calculate the Reset Interest Rate and the Reset Interest Amount for any Interest Period or the interest amount payable on the Redemption Date (if the Notes are to be redeemed pursuant to Condition 5 (*Redemption and Purchase*)) or (ii) comply with any other requirement in relation to the Notes, the Issuer shall appoint a leading bank or financial institution that is experienced in the calculations or determinations to be made by the Calculation Agent to act as such in the Calculation Agent's place. The Calculation Agent may not resign its duties without a successor having been appointed as aforesaid. Any termination or appointment of the Calculation Agent pursuant to this clause (h) shall take effect not more than 45 and not less than 30 days' after the Issuer has notified the Holders of such termination or appointment pursuant to Condition 12 (*Notices*); *provided*, *however*, that, in the case of insolvency of the Calculation Agent, such termination or appointment will take immediate effect.

(i) Accrual of interest in the case of redemption or a Write-down Event

(i) Subject to Condition 6 (*Contingent Write-down*), if the Notes are to be redeemed pursuant to clause (b), (c) or (d) of Condition 5 (*Redemption and Purchase*), interest on the Notes will accrue up to (but excluding) the relevant Redemption Date, and will cease to accrue on such Redemption Date; *provided*, *however*, that if the payment with respect to any Note is improperly withheld or refused on such Redemption Date, interest will continue to accrue on the principal amount of such Note (both before and after judgment) at the relevant Interest Rate to the Relevant Date.

(ii) Upon the occurrence of a Write-down Event, interest on the Notes will cease to accrue and any accrued and unpaid interest as at the time of such Write-down Event (whether or not due and payable) will be written down to zero in accordance with Condition 6 (*Contingent Write-dow*n).

(j) Cancellation of interest; prohibited interest

(i) The Issuer may, at its discretion, elect to cancel all or part of any payment of interest on the Notes (including, for the avoidance of doubt, any related Additional Amounts) that is otherwise scheduled to be paid on an Interest Payment Date. This subclause (j)(i) is without prejudice to the provisions of subclause (j)(ii) of this Condition 4. Non-payment of any amount of interest by the Issuer to the Principal Paying Agent will constitute evidence of cancellation of the relevant payment, whether or not notice of cancellation has been given by the Issuer.

If practicable, the Issuer shall provide notice of any cancellation of interest (in whole or in part) pursuant to this subclause (j)(i) to the Holders on or prior to the relevant Interest Payment Date. If practicable, the Issuer shall endeavour to provide such notice at least five Business Days prior to the relevant Interest Payment Date. Failure to provide such notice will not have any impact on the effectiveness of, or otherwise invalidate, any such cancellation of interest, or give Holders any rights as a result of such failure.

(ii) The Issuer will be prohibited from making, in whole or in part, any payment of interest on the Notes (including, for the avoidance of doubt, any related Additional Amounts) on the relevant Interest Payment Date if and to the extent that:

(A) the amount of Distributable Items as at such Interest Payment Date is less than the sum of (1) the amount of such interest payment, plus (2) all other payments (other than redemption payments) made by UBS Group AG on or in respect of the Notes or any Parity Obligations or Junior Obligations since the balance sheet date of the Relevant Accounts and prior to such Interest Payment Date, plus (3) all payments (other than redemption payments) payable by UBS Group AG on such Interest Payment Date on or in respect of any Parity Obligations or Junior Obligations, in the case of each of clauses (1), (2) and (3), excluding any portion of such payments already accounted for in determining the amount of such Distributable Items; and/or

(B) UBS Group AG is not, or will not immediately after the relevant payment of interest be, in compliance with all applicable minimum capital adequacy requirements of the National Regulations on a consolidated (*Finanzgruppe*) basis (for the avoidance of doubt, it being understood that such minimum requirements will reflect any reduction in such requirements granted by the FINMA to the Group pursuant to the Capital Adequacy Ordinance); and/or

(C) the FINMA has required the Issuer not to make such interest payment.

The Issuer shall deliver a certificate signed by the Authorised Signatories to the Principal Paying Agent and shall give notice in accordance with Condition 12

(*Notices*) to the Holders, in each case as soon as practicable following any determination that interest is required to be cancelled pursuant to this subclause (j)(ii) or, where no such prior determination is made, promptly following any Interest Payment Date on which interest was scheduled to be paid if such interest is being cancelled in accordance with this subclause (j)(ii), to such effect setting out brief details as to the amount of interest being cancelled and the reason therefor. Failure to provide such certificate and notice will not have any impact on the effectiveness of, or otherwise invalidate, any such cancellation or give any Holder any rights as a result of such failure.

(iii) If, on any Interest Payment Date, any payment of interest scheduled to be made on such date is not made in full pursuant to subclause (j)(i) or subclause (j)(ii) of this Condition 4, UBS Group AG shall not, directly or indirectly,

(A) recommend to holders of Ordinary Shares that any dividend or other distribution in cash or in kind (other than in the form of Ordinary Shares) be paid or made on any Ordinary Shares; and

(B) redeem, purchase or otherwise acquire any Ordinary Shares other than as a Permitted Transaction,

in each case unless and until (x) the interest payment due and payable on the Notes on any subsequent Interest Payment Date has been paid in full (or an amount equal to the same has been paid in full to a designated third party trust account for the benefit of the Holders prior to payment by the trustee thereof to the Holders on such subsequent Interest Payment Date) or, if earlier, (y) all outstanding Notes have been cancelled in accordance with these Terms and Conditions.

(iv) Payments of interest on the Notes are not cumulative. Notwithstanding any other provision in these Terms and Conditions, the cancellation or non-payment of any interest amount by virtue of this Condition 4(j) will not constitute a default for any purpose (including, without limitation, Condition 10 (*Events of Default*) on the part of the Issuer. Any interest payment not paid by virtue of this Condition 4(j) will not accumulate or be payable at any time thereafter, and Holders will have no right thereto.

(v) If UBS Group AG determines, after consultation with the FINMA, that the Notes do not, or will cease to, fully qualify as Additional Tier 1 Capital, (A) the Issuer shall not, to the extent permitted under National Regulations, exercise its discretion pursuant to subclause (j)(i) of this Condition 4 to cancel any interest payments due on the Notes on any Interest Payment Date following the occurrence of such determination, and (B) the Issuer shall give notice to the Holders in accordance with Condition 12 (*Notices*) as soon as practicable after such determination stating that the Issuer may no longer exercise its discretion pursuant to subclause (j)(i) of this Condition 4 to cancel any interest payments as from the date of such notice.

5. REDEMPTION AND PURCHASE

(a) No fixed redemption date

The Notes are perpetual securities in respect of which there is no fixed redemption date. Unless previously redeemed or purchased and cancelled in accordance with this Condition 5 and subject to Condition 6 (*Contingent Write-down*), the Notes are perpetual and may only be redeemed or purchased in accordance with this Condition 5.

(b) Redemption at the option of the Issuer

Subject to clause (e) of this Condition 5, the Issuer may elect, in its sole discretion, to redeem the Notes, in whole but not in part, on the First Call Date or on any other Interest Payment Date thereafter at their aggregate principal amount, together with any accrued and unpaid interest thereon to (but excluding) the First Call Date or such other Interest Payment Date, as applicable.

(c) Redemption due to a Tax Event

(i) Subject to clause (e) of this Condition 5, upon the occurrence of a Tax Event at any time after the Issue Date, the Issuer may elect, in its sole discretion, to redeem the Notes, in whole but not in part, on the relevant Redemption Date at their aggregate principal amount, together with any accrued and unpaid interest thereon to (but excluding) such Redemption Date.

(ii) A "**Tax Event**" will have occurred if the Issuer in making any payments on the Notes (A) has paid, or will or would on the next payment date be required to pay, Additional Amounts, or (B) has paid, or will or would be required to pay, any additional Tax in respect of the Notes, in the case of each of clauses (A) and (B), under the laws or regulations of a Tax Jurisdiction or any political subdivision thereof or any authority of or in a Tax Jurisdiction or any political subdivision thereof having the power to impose, levy, collect, withhold or assess Taxes, including, without limitation, any treaty to which a Tax Jurisdiction is a party, or any generally published application or interpretation of such laws (including, without limitation, a decision of any court or tribunal, any generally published application or interpretation of such laws by any relevant tax authority or any generally published pronouncement by any relevant tax authority), and the Issuer cannot avoid the foregoing by taking measures reasonably available to it.

(d) Redemption due to a Regulatory Event

(i) Subject to clause (e) of this Condition 5, upon the occurrence of a Regulatory Event at any time after the Issue Date, the Issuer may elect, in its sole discretion, to redeem the Notes, in whole but not in part, on the relevant Redemption Date at their aggregate principal amount, together with any accrued and unpaid interest thereon to (but excluding) such Redemption Date.

(ii) A "**Regulatory Event**" will have occurred if any of the Notes ceases to be eligible in full to be (A) treated as Additional Tier 1 Capital, and/or (B) counted towards either the Going-Concern LR Requirement or the Going-Concern RWA Requirement (or both).

(e) Conditions for redemption

(i) If the Issuer elects to redeem the Notes pursuant to clause (b), (c) or (d) of this Condition 5, the Issuer shall give the Holders not less than 30 and not more than 60 days' prior notice in accordance with Condition 12 (*Notices*) (a "**Redemption Notice**"), which notice shall, subject to clause (f) of this Condition 5, be irrevocable and specify the date on which the Issuer will redeem the Notes pursuant to such clause of this Condition 5 (such specified date, the "**Redemption Date**").

(ii) The Issuer may only redeem the Notes pursuant to clause (b) or (c) of this Condition 5 on the relevant Redemption Date if the FINMA has approved such redemption on or prior to such Redemption Date, if such approval is then required under applicable Swiss laws and regulations.

(iii) The Issuer may only redeem the Notes pursuant to any clause of this Condition 5 on the relevant Redemption Date if no Trigger Event or Viability Event has occurred prior to such Redemption Date.

(iv) Prior to the publication of any notice of redemption pursuant to subclause (e)(i) of this Condition 5, the Issuer shall deliver to the Principal Paying Agent (A) a certificate signed by two Authorised Signatories stating that the relevant requirement or circumstance giving rise to the right to redeem under this Condition 5 is satisfied and the reasons therefor and such certificate will be conclusive and binding on the Holders, and (B) an opinion of independent legal advisers of recognised standing to the effect that circumstances entitling the Issuer to exercise its right of redemption under this Condition 5 have arisen.

(f) Purchases

The Issuer or any other member of the Group or any of their respective affiliates may at any time purchase Notes at any price in the open market or otherwise, *provided* that (i) such purchase complies with any limits or conditions to which any member of the Group is subject under applicable banking laws and regulations at the time of such purchase, (ii) other than in the case of purchases made in connection with stabilisation measures in compliance with applicable law or in connection with any market making in the Notes, the FINMA has approved such purchase (if such approval is then required under applicable Swiss laws and regulations) on or prior to the date of such purchase, and (iii) no Trigger Event or Viability Event has occurred prior to the date of such purchase. Any Notes so purchased may, at the option of the Issuer, be held, reissued, resold or cancelled.

(g) Cancellation

All Notes redeemed in accordance with this Condition 5 will be cancelled and may not be reissued or resold.

(h) Redemption of Other Instruments

For the avoidance of doubt, it is understood that, if, upon the occurrence of a Tax Event or a Regulatory Event, the Issuer does not elect to redeem the Notes pursuant to this Condition 5, nothing in this Condition 5 or any other provision of these Terms and Conditions will prohibit the Issuer from redeeming (whether early, at maturity or otherwise) any other instruments issued by any member of the Group pursuant to the terms thereof.

6. CONTINGENT WRITE-DOWN

(a) Trigger Event

(i) Upon the occurrence of a Trigger Event, a Contingent Write-down will occur on the Trigger Event Write-down Date in accordance with clause (d) of this Condition 6.

(ii) A "**Trigger Event**" will have occurred if the Issuer gives the Holders a Trigger Event Write-down Notice in accordance with clause (b) of this Condition 6.

(b) Trigger Event Write-down Notice

(i) If, with respect to any Publication Date, the Trigger CET1 Ratio as of such Publication Date is less than the Write-down Threshold, the Issuer shall, subject to subclauses (b)(ii) and (b)(iii) of this Condition 6, give a Trigger Event Write-down Notice to the Holders (x) if such Publication Date is an Ordinary Publication Date, within five Business Days of such Ordinary Publication Date (such fifth Business Day, the "**Trigger Breach Determination Date**", and the date of such notice, the "**Ordinary Trigger Event Notice Date**"), and (y) if such Publication Date is an Extraordinary Publication Date, on such Extraordinary Publication Date (the "**Extraordinary Trigger Event Notice Date**"), in each case in accordance with Condition 12 (*Notices*).

(ii) If a Trigger Event Write-down Notice is required to be given pursuant to subclause (b)(i) of this Condition 6, and on the relevant Publication Date any Higher-Trigger Contingent Capital is outstanding with respect to which either (x) no Higher-Trigger Write-down/Conversion Notice has been given prior to the Trigger Event Notice Date or (y) a Higher-Trigger Write-down/Conversion Notice has been given prior to the Trigger Event Notice Date, but the Trigger Event Write-down Date is scheduled to occur prior to the relevant Higher-Trigger Write-down/Conversion Date,

(A) in the case of clause (x) above, the giving of such Trigger Event Write-down Notice will be postponed until the date on which a Higher-Trigger Write-down/Conversion Notice has been given with respect to all such outstanding Higher-Trigger Contingent Capital and such date will be deemed to be the Trigger Event Notice Date; and

(B) in the case of clauses (x) and (y) above, if the Trigger Event Write-down Date is scheduled to occur prior to the Higher-Trigger Write-down/Conversion Date (or, in the case of more than one Higher-Trigger Write-down/Conversion Date, the latest Higher-Trigger Write-down/Conversion Date), the Trigger Event Write-down Date will be postponed to the Higher-Trigger Write-down/Conversion Date (or the latest Higher-Trigger Write-down/Conversion Date, as applicable) and such postponement shall be specified in such Trigger Event Write-down Notice.

(iii) If (A) a Trigger Event Write-down Notice is required to be given pursuant to subclause (b)(i) of this Condition 6 in relation to an Ordinary Publication Date, and (B) prior to the earlier of the Ordinary Trigger Event Notice Date and the Trigger Breach Determination Date, the FINMA, upon the request of UBS Group AG, has agreed in writing that a Contingent Write-down is not required as a result of actions taken by the Group or circumstances or events, in each case, that have had, or imminently will have, the effect of restoring the CET1 Ratio as of the Balance Sheet Date relating to the relevant Ordinary Publication Date, after giving pro forma effect to such actions, circumstances or events, to a level above the Write-down Threshold that the FINMA and UBS Group AG deem, in their sole discretion, to be adequate at such time, (x) the Issuer shall not give such Trigger Event Write-down Notice pursuant to subclause (b)(i) of this Condition 6 in relation to the relevant Ordinary Publication Date, and (y) the Issuer shall give notice to the Holders on or prior to the Trigger Breach Determination Date in accordance with Condition 12 (*Notices*), which notice shall state that no Contingent Write-down will occur in relation to the relevant Ordinary Publication Date.

(c) Viability Event

(i) Subject to clause (f) of this Condition 6, upon the occurrence of a Viability Event, (A) the Issuer shall give notice to the Holders in accordance with Condition 12 (*Notices*) within three days of the date on which such Viability Event occurred, which notice shall (x) state that a Viability Event has occurred and a Contingent Write-down will take place and (y) specify the date on which the Contingent Write-down will take place, which date shall be no later than ten Business Days after the date of such notice (such specified date, the "**Viability Event Write-down Date**", and such notice, a "**Viability Event Write-down Notice**"), and (B) a Contingent Write-down will occur on the Viability Event Write-down Date in accordance with clause (d) of this Condition 6.

(ii) A "**Viability Event**" will have occurred if prior to an Alternative Loss Absorption Date (if any):

(A) the FINMA has notified UBS Group AG in writing that it has determined a write-down of the Notes, together with the conversion or write-down, as applicable, of holders' claims in respect of all other capital instruments issued by, or other capital obligations (whether qualifying fully or partially for capital treatment) of, any member of the Group that, pursuant to their terms or by operation of law, are capable of being converted into equity or written down at that time, is, because customary measures to improve the Group Holding Company's capital adequacy are at the time inadequate or infeasible, an essential requirement to prevent the Group Holding Company from becoming insolvent, bankrupt, unable to pay a material part of its debts as they fall due or unable to carry on its business; or

(B) customary measures to improve the Group Holding Company's capital adequacy being at the time inadequate or infeasible, the Group Holding Company has received an irrevocable commitment of direct or indirect extraordinary support from the Public Sector (beyond customary transactions and arrangements in the ordinary course) that has, or imminently will have, the effect of improving the Group Holding Company's capital adequacy and without which, in the determination of (and as notified in writing by) the FINMA, the Group Holding Company would have become insolvent, bankrupt, unable to pay a material part of its debts as they fall due or unable to carry on its business.

For the avoidance of doubt, it is understood that, a Viability Event may occur irrespective of whether or not a Trigger Event has occurred or whether any of the conditions to the issuance of a Trigger Event Write-down Notice have been met.

(d) Contingent Write-down

If the Issuer has given a Write-down Notice in accordance with this Condition 6, then on the relevant Write-down Date,

(i) the full principal amount of, and any accrued and unpaid interest (whether or not due and payable) on, each Note will automatically be written down to zero, the Notes will be cancelled and all references to the principal amount of the Notes in these Terms and Conditions will be construed accordingly;

(ii) the Holders will be automatically deemed to have irrevocably waived their right to receive, and will no longer have any rights against the Issuer with respect to, repayment of the aggregate principal amount of, and payment of any accrued and unpaid interest on, the Notes written down pursuant to subclause (i) of this clause (d) (*bedingter Forderungsverzicht*); and

(iii) all rights of any Holder for payment of any amounts under or in respect of the Notes (including, without limitation, any amounts arising as a result of, or due and payable upon the occurrence of, an Event of Default) will become null and void, irrespective of whether such amounts have become due and payable prior to the relevant Write-down Notice Date or the Write-down Date.

(e) Determination of CET1 Ratio and Trigger CET1 Ratio

With respect to any Publication Date, (i) the CET1 Ratio as of the relevant Balance Sheet Date, (ii) the Trigger CET1 Ratio as of such Publication Date and (iii) the components of both of the foregoing, in each case, as published on such Publication Date, will be final for purposes of this Condition 6, and any revisions, restatements or adjustments to any of the calculations described in subclauses (i) through (iii) of this clause (e) subsequently published will have no effect for purposes of this Condition 6.

(f) Alternative loss absorption

In the event of the implementation of any new, or amendment to or change in the interpretation of any existing, laws or components of National Regulations, in each case occurring after the Issue Date, that alone or together with any other law(s) or regulation(s) has, in the joint determination of UBS Group AG and the FINMA, the effect that clause (c) of this Condition 6 could cease to apply to the Notes without giving rise to a Regulatory Event, then the Issuer shall give notice to the Holders in accordance with Condition 12 (*Notices*) no later than five Business Days after such joint determination stating that such provisions will cease to apply from the date of such notice (the "**Alternative Loss Absorption Date**"), and from the date of such notice, such provisions will cease to apply to the Notes.

7. PAYMENTS

(a) All payments required to be made under the Notes will be made available in good time in freely disposable funds in AUD, which will be placed at the free disposal of the Principal Paying Agent on behalf of the Holders. If the Scheduled Due Date for any payment (whether in respect of principal, interest or otherwise) in respect of the Notes is not a Payment Business Day, then the Holders will not be entitled to payment thereof until the first Payment Business Day immediately following the Scheduled Due Date, and the Holders will not be entitled to any additional sum in relation to such payment. All payments required to be made under the Notes (including, for the avoidance of doubt, any Additional Amounts) shall be made to the Holders in AUD without collection costs, without any restrictions and whatever the circumstances may be, irrespective of nationality, domicile or residence of the relevant Holder and without certification, affidavit or the fulfilment of any other formality.

(b) The Issuer reserves the right to terminate the appointment of the Principal Paying Agent, as well as to appoint or, after any such appointment, to terminate the appointment of, one or more other paying agents to carry out any payment, calculation or other functions in respect of the Notes (each, a "**Paying Agent**", which term includes the Principal Paying Agent). Any such appointment or termination of appointment shall only take effect not more than 45 and not less than 30 days' after the Issuer has notified the Holders of such appointment or termination pursuant to Condition 12 (*Notices*); *provided*, *however*, that, in the case of insolvency of any Paying Agent, any termination of such Paying Agent and appointment of any other Paying Agent will take immediate effect. In addition, for so long as the Notes are listed on the SIX Swiss Exchange, the Issuer shall maintain a Paying Agent in Switzerland, which agent shall have an office in Switzerland and be a bank or securities dealer subject to supervision by FINMA, to perform the functions of a Swiss paying agent.

8. TAXATION

(a) All payments to be made by or on behalf of the Issuer in respect of the Notes (including, for the avoidance of doubt, payments by a Paying Agent) shall be made without withholding or deduction for, or on account of, any present or future taxes, duties, assessments or other government charges of any nature ("**Taxes**") imposed, levied, collected, withheld or assessed by or on behalf of any Tax Jurisdiction or any political subdivision thereof or any authority of or in a Tax Jurisdiction or any political subdivision thereof having the power to impose, levy, collect, withhold or assess Taxes, unless withholding, deduction or accounting for such Taxes is required by law.

(b) In the event that any payment to be made by or on behalf of the Issuer in respect of the Notes (including, for the avoidance of doubt, payments by a Paying Agent) is subject to any withholding or deduction for, or on account of, any Taxes by requirement of law in a Tax Jurisdiction (as determined by the relevant tax authority of or in such Tax Jurisdiction), the Issuer shall pay such additional amounts as will result in the Holders receiving the amounts that they would have received in respect of the Notes if no such withholding or deduction had been required ("**Additional Amounts**").

(c) No Additional Amounts will be payable pursuant to clause (b) of this Condition 8 in relation to any Note:

(i) if the relevant Holder is liable for such Taxes on such Note as a result of having some connection with the relevant Tax Jurisdiction other than its mere ownership or possession of such Note or the receipt of principal or interest in respect thereof; or

(ii) with respect to any Tax collected pursuant to the provisions of, or any laws or an agreement with any Tax Jurisdiction relating to, Sections 1471 through 1474 of the US Internal Revenue Code (commonly referred to as "FATCA"); or

(iii) where such withholding or deduction is required to be made pursuant to laws enacted by Switzerland providing for the taxation of payments according to principles similar to those laid down in the draft legislation of the Swiss Federal Council of 17 December 2014, or otherwise changing the Swiss federal withholding tax system from an issuer-based system to a paying agent-based system pursuant to which a person other than the issuer is required to withhold tax on any interest payments; or

(iv) to the extent any combination of subclauses (i) through (iii) of this clause (c) applies.

(d) Any reference in these Terms and Conditions to amounts payable by the Issuer in respect of the Notes includes (i) any Additional Amount payable pursuant to this Condition 8 and (ii) any sum payable pursuant to an obligation taken in addition to or in substitution for the obligation in this Condition 8.

9. STATUTE OF LIMITATIONS

In accordance with Swiss law, (a) claims for interest payments under the Notes will become time-barred after the five-year period and (b) claims for the repayment or redemption of Notes will become time-barred after the ten-year period, in each case, commencing on the date on which such payments, repayment or redemption become due and payable.

10. EVENTS OF DEFAULT

(a) If any of the following events occurs, such occurrence will constitute an "**Event of Default**":

(i) the Issuer fails to pay the principal amount of any Note if and when the same becomes due and payable under these Terms and Conditions, and such failure continues unremedied for a period of 30 days; or

(ii) the Issuer fails to pay any interest on the Notes if and when the same becomes due and payable under these Terms and Conditions, and such failure continues unremedied for a period of 30 days; or

(iii) the Issuer fails to observe or perform any other covenant, condition, or agreement contained in these Terms and Conditions, and such failure continues unremedied for a period of 60 days after written notice thereof from any Holder to the Issuer; or

(iv) a Bankruptcy Event.

(b) Upon the occurrence of an Event of Default relating to any failure of the Issuer to meet any payment obligation under these Terms and Conditions and subject to Condition 6 (*Contingent Write-down*), (i) such payment obligation (and such payment obligation only) will be immediately deemed a due and payable (*fällige*) payment obligation of the Issuer, and (ii) if (A) the relevant Holder has formally requested payment of such payment obligation, (B) such payment obligation has not been fulfilled within the statutory period under Swiss law commencing after the date of such formal request and (C) a writ of payment (*Zahlungsbefehl*) has been issued with respect to such payment obligation pursuant to the DEBA, the relevant Holder may institute proceedings against the Issuer in Switzerland (but not elsewhere) to enforce its rights with respect to such payment obligation under the DEBA.

(c) If a debt collection or insolvency proceeding with respect to the Issuer is instituted in Switzerland in accordance with clause (b) of this Condition 10, the Issuer shall not (i) after having received the writ of payment (*Zahlungsbefehl*) relating to the relevant payment obligation, argue or plead that such payment obligation is not due and payable by the Issuer, or (ii) prior to the declaration of bankruptcy (or similar proceeding under Swiss insolvency laws), make any payment to the relevant Holder under or in connection with the Notes.

(d) In the case of any Event of Default arising under subclause (a)(iii) of this Condition 10 and subject to Condition 6 (*Contingent Write-down*), any Holder may seek specific performance or damages with respect to such Event of Default pursuant to the Swiss Code if so entitled thereunder. Any such damage claim of any Holder will rank junior to the rights and claims of all holders of Senior Obligations.

(e) In the case of any Event of Default arising under subclause (a)(iv) of this Condition 10 and subject to Condition 6 (*Contingent Write-down*), any Holder may, by written notice to the Issuer, declare the principal amount of any of its Notes, together with any accrued and unpaid interest thereon, immediately due and payable, without presentment, demand, protest or other notice of any kind.

(f) No remedy against the Issuer other than those described in this Condition 10 will be available to the Holders in connection with the Issuer's obligations under these Terms and Conditions, whether for the recovery of amounts owing under these Terms and Conditions or in respect of any breach by the Issuer of any of its other obligations under these Terms and Conditions or otherwise. In particular, no Holder may declare (i) the principal amount of any Notes due and payable prior to any Redemption Date, or (ii) any interest on any Notes due and payable prior to the relevant Interest Payment Date, except, in the case of each of subclauses (i) and (ii) of this clause (f), pursuant to clause (e) of this Condition 10.

11. SUBSTITUTION AND AMENDMENT

(a) If a Tax Event, a Regulatory Event or an Alignment Event has occurred, the Issuer may, without the consent of the Holders unless so required by mandatory provisions of Swiss law, either substitute all, but not some only, of the Notes for, or amend these Terms and Conditions so that they remain or become, Compliant Securities, *provided* that:

(i) neither a Tax Event nor a Regulatory Event arises as a result of such substitution or amendment;

(ii) the FINMA has approved such substitution or amendment (if such approval is then required under applicable Swiss laws and regulations);

(iii) the Issuer has given the Holders not less than 30 days' notice of such substitution or amendment in accordance with Condition 12 (*Notices*), which notice (the "**Substitution or Amendment Notice**") will, subject to subclause (a)(iv) of this Condition 11, be irrevocable, and state the date on which such substitution or amendment will be effective (the "**Substitution or Amendment Effective Date**");

(iv) prior to the publication of any notice pursuant to subclause (a)(iii) of this Condition 11, the Issuer shall deliver to the Principal Paying Agent (A) a certificate signed by two Authorised Signatories stating that the relevant requirement or circumstance giving rise to the right to substitute or amend the terms of the Notes, as applicable, pursuant to this clause (a) of this Condition 11 is satisfied and the reasons therefor and such certificate will be conclusive and binding on the Holders, and (B) an opinion of independent legal advisers of recognised standing to the effect that circumstances entitling the Issuer to exercise its right to substitute or amend the terms of the Notes, as applicable, pursuant to this clause (a) of this Condition 11 have arisen; and

(v) no Trigger Event or Viability Event has occurred prior to the relevant Effective Date.

In connection with any substitution or amendment in accordance with this clause (a) of this Condition 11, the Issuer shall comply with the rules of any stock exchange on which the Notes are for the time being listed or admitted to trading.

An "**Alignment Event**" will have occurred if, as a result of any change in National Regulations at any time after the Issue Date, any Relevant Swiss Issuer would be permitted to issue or guarantee (including, without limitation, by providing a guarantee, credit support agreement or similar undertaking), or has issued or guaranteed (including, without limitation, by providing a guarantee, credit support agreement or similar undertaking), a capital instrument that (i) is eligible in full to be (A) treated as Additional Tier 1 Capital and (B) counted towards either the Going-Concern LR Requirement or the Going-Concern RWA Requirement (or both), and (ii) has terms and conditions that (A) include a write-down feature, and (B) contain one or more provisions that are, in the reasonable opinion of UBS Group AG, different in any material respect from those in these Terms and Conditions, which provisions, if they had been included in these Terms and Conditions, would have prevented the Notes from being eligible in full to be treated as Additional Tier 1 Capital and/or to be counted towards either the Going-Concern LR Requirement or the Going-Concern RWA Requirement (or both) immediately prior to such change in National Regulations.

(b) In addition to its rights under clause (a) of this Condition 11, the Issuer may, without the consent of the Holders unless so required by mandatory provisions of Swiss law, make any amendment to these Terms and Conditions that it considers to be (i) necessary or desirable to give effect to (A) any Alternative Benchmark Rate determined in accordance with clause (c) of Condition 4 (*Interest*) (including any Adjustment Spread determined in accordance with subclause (v)(A)(2) thereof and any alternative method for determining the 5-Year Semi Quarterly Mid-Swap Rate if such Alternative Benchmark Rate is unavailable on the relevant Reset Determination Date determined in accordance with subclause (v)(A)(3) thereof), or (B) the provisions of clause (a) of Condition 13 (*Issuer Substitution*) (including, without limitation, (x) if the Substitute Issuer is organised and/or resident for tax purposes in a jurisdiction other than Switzerland, any amendments to any references to the jurisdiction of "Switzerland" contained herein, including, without limitation, amendments to the definition of the term "Bankruptcy Event", the definition of the term "Business Day", the governing law of the subordination provisions set forth in Condition 3 (*Status and Subordination*) and the provisions of Condition 10 (*Events of Default*), and (y) any amendments to reflect UBS Group AG's guarantee described in subclause (a)(iii) of Condition 13 (*Issuer Substitution*)), or (ii) formal, minor or technical in nature, or (iii) necessary to correct a manifest error, or (iv) not materially prejudicial to the interests of the Holders.

(c) The Issuer shall notify the Holders of any amendments made pursuant to clause (b) of this Condition 11 in accordance with Condition 12 (*Notices*), which notice shall state the date on which such amendment will be effective.

(d) Any amendment made pursuant to this Condition 11 will be binding on the Holders in accordance with its terms.

12. NOTICES

So long as the Notes are listed on the SIX Swiss Exchange, notices to Holders shall be given by the Issuer (a) by means of electronic publication on the internet website of the SIX Swiss Exchange (https://www.six-group.com/exchanges/index.html), where notices are currently published under the address https://www.six-group.com/exchanges/news/official_notices/search_en.html, or (b) otherwise in accordance with the regulations of the SIX Swiss Exchange. Any notice will be validly given on the date of such publication or, if published more than once, on the date of the first such publication.

If the Notes are for any reason no longer listed on the SIX Swiss Exchange, notices to Holders will be given by the Issuer to the Intermediary for forwarding to the Holders. Any such notice will be validly given on the date of delivery to the Intermediary.

13. ISSUER SUBSTITUTION

(a) The Issuer (for purposes of this Condition 13, the "**Current Issuer**") may, without the consent of the Holders, substitute any entity (whether or not such entity is organised under the laws of Switzerland) (such substitute entity, the "**Substitute Issuer**") for itself as principal debtor under the Notes upon giving no more than 30 and no less than 10 days' notice to the Holders in accordance with Condition 12 (*Notices*), *provided* that:

(i) the Substitute Issuer is UBS Group AG or at least 95 per cent. of the Substitute Issuer's capital and voting rights are held, directly or indirectly, by UBS Group AG;

(ii) the Current Issuer is not in default in respect of any amount payable under the Notes at the time of such substitution;

(iii) if the Substitute Issuer is not UBS Group AG, UBS Group AG has irrevocably and unconditionally guaranteed to the Holders, pursuant to article 111 of the Swiss Code and on a subordinated basis corresponding *mutatis mutandis* to Condition 3 (*Status and Subordination*), the due and punctual payment of principal and interest and all other amounts due and payable by the Substitute Issuer under, or in respect of, the Notes upon receipt of the written request for payment of the relevant amount, and on the terms whereby Condition 4 (*Interest*), Condition 8 (*Taxation*), Condition 10 (*Events of Default*) and Condition 16 (*No Set-off by Holders*) apply to UBS Group AG and to its obligations under such guarantee either by making the necessary consequential amendments to such Conditions or including such Conditions applicable to UBS Group AG and to its obligations under such guarantee in such guarantee itself, as applicable;

(iv) UBS Group AG, the Current Issuer and the Substitute Issuer (1) have entered into such documents (the "**Substitution Documents**") as are necessary to give effect to such substitution and pursuant to which the Substitute Issuer has (x) undertaken in favour of each Holder to be bound by these Terms and Conditions as the principal debtor (on a subordinated basis corresponding to Condition 3 (*Status and Subordination*)) under the Notes in place of the Current Issuer and (y) assumed the obligations of the Current Issuer under the Agency Agreement, and (2) procure that all action, conditions and things required to be taken, fulfilled and done (including, without limitation, the obtaining of any necessary consents) to ensure that the Substitution Documents represent valid, legally binding and enforceable obligations of the Substitute Issuer have been taken, fulfilled and done and are in full force and effect;

(v) if the Substitute Issuer is resident for tax purposes in a jurisdiction (the "**New Residence**") other than that in which the Current Issuer prior to such substitution was resident for tax purposes (the "**Former Residence**"), the Substitution Documents contain an undertaking by the Substitute Issuer and/or such other provisions as may be necessary to ensure that each Holder has the benefit of an undertaking in terms corresponding to the provisions of Condition 8 (*Taxation*) in relation to the payment of all amounts due and payable under, or in respect of, the Notes and in relation to the guarantee referred to in clause (iii) above, with, in the case of the Notes but not such guarantee, the substitution of references to the Former Residence with references to the New Residence, and an undertaking by the Substitute Issuer to indemnify each Holder against any Tax that is imposed on it by (or by any authority in or of) the New Residence and, if different, the jurisdiction of the Substitute Issuer's organisation with respect to any Note and that would not have been so imposed had the substitution not been made, as well as against any Tax, and any cost or expense, relating to such substitution;

(vi) if the Substitute Issuer is not UBS Group AG, the FINMA has approved such substitution (if such approval is then required under applicable Swiss laws and regulations), and the Current Issuer and the Substitute Issuer have obtained all other necessary governmental and other approvals and consents for such substitution and for the performance by the Substitute Issuer of its obligations under the Substitution Documents;

(vii) if the Substitute Issuer is not organised under the laws of Switzerland, the Substitute Issuer has appointed a process agent as its agent in Switzerland to receive service of process on its behalf in relation to any legal proceedings arising out of or in connection with the Notes;

(viii) the Substitute Issuer has appointed a Paying Agent in Switzerland that is a participant in the Intermediary; and

(ix) such substitution does not give rise to a Tax Event or a Regulatory Event.

(b) Upon any substitution pursuant to clause (a) of this Condition 13, (i) the Substitute Issuer will succeed to, and be substituted for, and may exercise every right and power of, the Current Issuer under the Notes with the same effect as if the Substitute Issuer had been named as Issuer in these Terms and Conditions, and (ii) the Current Issuer will be released from its obligations under the Notes.

(c) After giving effect to any substitution pursuant to clause (a) of this Condition 13, (i) references to the "Issuer" in the Notes and these Terms and Conditions will be references to the Substitute Issuer, and (ii) references to the "Tax Jurisdiction" in the Notes and these Terms and Conditions will be read and construed as including the jurisdiction of establishment of the Substitute Issuer and, if different, the jurisdiction in which the Substitute Issuer is resident for tax purposes instead of or in addition to (as the case may be) references to the jurisdiction of establishment of the Issuer and Switzerland.

14. FURTHER ISSUES

The Issuer may from time to time without the consent of the Holders issue further notes and, *provided* that such notes have the same terms and conditions as the Notes in all respects (or in all respects except for the issue date and/or first date on which interest is paid), such further notes will be consolidated and form a single series with the Notes. If the Issuer issues any such further notes pursuant to this Condition 14, references in these Terms and Conditions to "**Notes**" include such further notes, unless the context otherwise requires.

15. CURRENCY INDEMNITY

Any amount received or recovered by any Holder in a currency other than AUD (whether as a result of, or of the enforcement of, a judgment or order of a court of any jurisdiction, in the insolvency, winding-up or dissolution of the Issuer or otherwise) under the Notes will only constitute a discharge of the Issuer to the extent of the amount in AUD that such Holder is able to purchase with the amount so received or recovered in such other currency on the date of such receipt or recovery (or, if it is not practicable to purchase AUD with such amount on such date, on the first date on which it is practicable to do so). If the amount of AUD that such Holder is able to purchase is less than the amount owed by the Issuer to such Holder under the Notes, the Issuer shall indemnify such Holder against any loss sustained by it as a result. In addition, the Issuer shall indemnify such Holder for the costs of making such purchase. For purposes of this Condition 15, it is sufficient for the relevant Holder to demonstrate that it would have suffered a loss had an actual purchase been made. The indemnities under this Condition 15 will (a) constitute a separate and independent obligation from the Issuer's other obligations hereunder, (b) give rise to a separate and independent cause of action, (c) apply irrespective of any indulgence granted by any Holder and (d) continue in full force and effect despite any other judgment, order, claim or proof for a liquidated amount in respect of any amount due under the Notes or any other judgment or order.

16. NO SET-OFF BY HOLDERS

Subject to applicable law, each Holder, by acceptance of any direct or beneficial interest in a Note, agrees that it will not, and waives its right to, exercise, claim or plead any right of set-off, compensation or retention with respect to any amount owed to it by the Issuer in respect of, or arising in connection with, the Notes.

17. NO CONVERSION

Notwithstanding the powers of the FINMA under articles 25 *et seq.* of the FBA or pursuant to any successor or analogous Swiss law or regulation applicable to bank holding companies in Switzerland such as UBS Group AG, the Notes shall under no circumstances be converted into equity of the Issuer, and shall only absorb losses pursuant to these Terms and Conditions.

18. GOVERNING LAW AND JURISDICTION

(a) The Notes shall be governed by and construed in accordance with the laws of Switzerland.

(b) The courts of the Canton of Zurich (venue being the City of Zurich) shall have exclusive jurisdiction to settle any disputes that may arise out of or in connection with the Notes.

Exhibit 4.18

UBS

High-trigger loss-absorbing additional tier 1 capital instrument

Issuer	UBS Group AG
ISIN	CH0495570928
Issue Date	04.09.2019
Currency	SGD
Nominal (million)	750.0
Interest Rate	4.85% [1]
Maturity Date	perpetual
First Call Date	04.09.2024

[1] Rate subject to change after first call date.

TERMS AND CONDITIONS OF THE NOTES

The terms and conditions of the Tier 1 Capital Notes issued by UBS Group AG are as follows:

1. DEFINITIONS

"**Additional Amounts**" has the meaning assigned to such term in clause (b) of Condition 8 (*Taxation*).

"**Additional Tier 1 Capital**" means, at any time, any item that qualifies as additional tier 1 capital (*zusätzliches Kernkapital*) under National Regulations at such time.

"**Adjustment Spread**" means, with respect to any Alternative Benchmark Rate determined in accordance with the provisions of clause (c) of Condition 4 (*Interest*), a spread (which may be positive or negative), or a formula or methodology for calculating such a spread, applied to such Alternative Benchmark Rate in order to reduce or eliminate, to the extent reasonably practicable in the circumstances, any economic prejudice or benefit (as applicable) to Holders as a result of the replacement of the Existing Benchmark Rate with such Alternative Benchmark Rate.

"**Affected Reset Interest Period**" has the meaning assigned to such term in subclause (c)(i) of Condition 4 (*Interest*).

"**Agency Agreement**" means the Agency Agreement dated as of the Issue Date, among the Issuer, the Principal Paying Agent, the Calculation Agent and the other agents from time to time party thereto, as amended, supplemented or otherwise modified from time to time.

"**Alignment Event**" has the meaning assigned to such term in clause (a) of Condition 11 (*Substitution and Amendment*).

"**Alternative Benchmark Rate**" has the meaning assigned to such term in subclause (c)(i) of Condition 4 (*Interest*).

"**Alternative Loss Absorption Date**" has the meaning assigned to such term in clause (f) of Condition 6 (*Contingent Write-down*).

"**Alternative Relevant Page**" has the meaning assigned to such term in clause (c)(v)(A) of Condition 4 (*Interest*).

"**Alternative Relevant Time**" has the meaning assigned to such term in clause (c)(v)(A) of Condition 4 (*Interest*).

"**Auditor**" means the accounting firm (i) appointed by the Board of Directors of the Group Holding Company or the shareholders of the Group Holding Company, as the case may be, to provide, among other things, audit and/or review opinions on the Group Holding Company's financial statements, and (ii) approved by the FINMA in accordance with the Financial Market Supervisory Act (*Finanzmarktaufsichtsgesetz*) of 22 June 2007, as amended from time to time.

"**Authorised Signatories**" means any two authorised officers of the Issuer signing jointly.

"**Balance Sheet Date**" means (i) with respect to any Ordinary Publication Date, the cut-off date for the measurement of the CET1 Ratio in the Quarterly Financial Accounts published on such Ordinary Publication Date, and (ii) with respect to any Extraordinary Publication Date, the cut-off date for the Reviewed Interim Measurement published upon the instruction of the FINMA on such Extraordinary Publication Date.

"**Bankruptcy Event**" means any of the following events with respect to the Issuer: (i) the adjudication of bankruptcy (*Konkurseröffnung*) pursuant to articles 171, 189, 190, 191 or 192 of the DEBA, including, without limitation, in connection with article 725a of the Swiss Code, (ii) the granting of a provisional or definitive stay of execution (*provisorische oder definitive Nachlassstundung*) pursuant to article 293 et seq. of the DEBA, (iii) the ordering of restructuring proceedings (*Sanierungsverfahren*) pursuant to articles 28 to 32 of the FBA or pursuant to any successor or analogous Swiss law or regulation applicable to bank holding companies in Switzerland such as UBS Group AG, and/or (iv) the ordering of liquidation proceedings

(*Liquidation*) pursuant to articles 33 to 37g of the FBA or pursuant to any successor or analogous Swiss law or regulation applicable to bank holding companies in Switzerland such as UBS Group AG; *provided*, *however*, that none of the following will constitute a Bankruptcy Event:
(x) mere debt collection proceedings (*Betreibungsverfahren*) pursuant to article 38 *et seq.* of the DEBA, (y) proceedings in connection with a freezing order (*Arrestverfahren*) pursuant to article 271 *et seq.* of the DEBA, and/or (z) the institution of protective measures (*Schutzmassnahmen*) pursuant to article 26 of the FBA or pursuant to any successor or analogous Swiss law or regulation applicable to bank holding companies in Switzerland such as UBS Group AG, including, in the case of each of subclauses (x), (y) and (z), any steps (other than any steps described in clauses (i) through (iv) of this definition) taken under or in connection therewith.

"**BIS Regulations**" means, at any time, the capital adequacy standards and guidelines promulgated by the Basel Committee on Banking Supervision, as implemented by the FINMA in Switzerland at such time.

"**BIS Risk Weighted Assets**" means, as of any Balance Sheet Date, the aggregate amount, in US dollars, of risk-weighted assets of the Group as of such Balance Sheet Date, as determined by the Group Holding Company pursuant to the BIS Regulations applicable to the Group Holding Company as of such Balance Sheet Date, and as (i) disclosed in the Quarterly Financial Accounts published on the relevant Ordinary Publication Date or (ii) may be disclosed as a component of the Reviewed Interim Measurement published upon the instruction of the FINMA on the relevant Extraordinary Publication Date, as applicable. For the avoidance doubt, the term "**risk-weighted assets**" as used in this definition has the meaning assigned to such term in the BIS Regulations in effect as of the relevant Balance Sheet Date.

"**Business Day**" means a day (other than a Saturday or a Sunday) on which commercial banks and foreign exchange markets settle payments and are open for general business (including, without limitation, dealing in foreign exchange and foreign currency deposits) in London, Singapore and Zurich.

"**Calculation Agent**" means UBS AG, in its capacity as calculation agent for the Notes, and includes any successor Calculation Agent appointed in accordance with the terms of the Agency Agreement.

"**Calculation Amount**" means SGD 250,000.

"**Calculation Period**" means the relevant period for which interest is to be calculated from (and including) the first day in such period to (but excluding) the last day in such period.

"**Capital Adequacy Ordinance**" means the Ordinance concerning Capital Adequacy and Risk Diversification for Banks and Securities Dealers, which entered into force on 1 January 2013, and as amended from time to time, or any successor Swiss law or regulation.

"**CET1 Capital**" means, as of any Balance Sheet Date, the aggregate amount, in US dollars, of items that constitute common equity tier 1 capital of the Group as of such Balance Sheet Date, less any deductions from common equity tier 1 capital required to be made, in each case as determined by the Group Holding Company pursuant to the BIS Regulations applicable to the Group Holding Company as of such Balance Sheet Date, and as (i) disclosed in the Quarterly Financial Accounts published on the relevant Ordinary Publication Date or (ii) may be disclosed as a component of the Reviewed Interim Measurement published upon the instruction of the FINMA on the relevant Extraordinary Publication Date, as applicable. For the avoidance of doubt, the term "**common equity tier 1 capital**" as used in this definition has the meaning assigned to such term in the BIS Regulations in effect as of the relevant Balance Sheet Date.

"**CET1 Ratio**" means, as of any Balance Sheet Date, the CET1 Capital as of such Balance Sheet Date, divided by the BIS Risk Weighted Assets as of such Balance Sheet Date, expressed as a percentage, such ratio (or the components thereof) as determined by the Group Holding Company, and (i) as disclosed in the Quarterly Financial Accounts published on the relevant Ordinary Publication Date or (ii) constituting (or as disclosed in) the Reviewed Interim Measurement published upon the instruction of the FINMA on the relevant Extraordinary Publication Date, as applicable.

"**Compliant Securities**" means securities issued by UBS Group AG or any of its subsidiaries that have economic terms not materially less favourable to a Holder than these Terms and Conditions (as reasonably determined by the Issuer), provided that

(a) such securities (A) include terms that provide for the same interest rate and principal from time to time applying to the Notes, (B) rank *pari passu* with the Notes and (C) preserve any existing rights under these Terms and Conditions to any accrued and unpaid interest that has not been satisfied;

(b) where such securities are issued by a subsidiary of UBS Group AG, UBS Group AG has irrevocably and unconditionally guaranteed to the holders of the relevant security, on a subordinated basis corresponding *mutatis mutandis* to Condition 3 (*Status and Subordination*), the due and punctual payment of all amounts due and payable by such subsidiary under, or in respect of, such securities pursuant to article 111 of the Swiss Code;

(c) where the Notes that have been substituted or amended were listed immediately prior to their substitution or amendment, the relevant securities are listed on (A) the SIX Swiss Exchange or (B) such other internationally recognised stock exchange selected by the Issuer; and

(d) where the Notes that have been substituted or amended were rated by a rating agency immediately prior to such substitution or amendment, each such rating agency has ascribed, or announced its intention to ascribe and publish, an equal or higher rating to the relevant securities.

"**Contingent Write-down**" means the events described in subclauses (i) through (iii) of clause (d) of Condition 6 (*Contingent Write-down*).

"**Day Count Fraction**" means, in respect of any period, the number of days from (and including) the first day of such period to (but excluding) the last day of such period divided by 365.

"**DEBA**" means the Swiss Federal Debt Enforcement and Bankruptcy Act of 11 April 1889, as amended from time to time.

"**Distributable Items**" means, in respect of an Interest Payment Date, the aggregate of (i) net profits carried forward and (ii) freely distributable reserves, in each case, less any amounts that must be contributed to legal reserves under applicable law, all in UBS Group AG's reporting currency and as appearing in the Relevant Accounts.

"**Event of Default**" has the meaning assigned to such term in clause (a) of Condition 10 (*Events of Default*).

"**Existing Benchmark Rate**" has the meaning assigned to such term in clause (c) of Condition 4 (*Interest*).

"**Extraordinary Publication Date**" means the Business Day on which a Reviewed Interim Measurement is published upon the instruction of the FINMA, after the FINMA has determined that the conditions for issuing a Trigger Event Write-down Notice in accordance with Condition 6 (*Contingent Write-down*) have been met.

"**Extraordinary Trigger Event Notice Date**" has the meaning assigned to such term in subclause (b)(i) of Condition 6 (*Contingent Write-down*).

"**FBA**" means the Swiss Federal Act on Banks and Savings Institutions of 8 November 1934, as amended from time to time.

"**FINMA**" means the Swiss Financial Market Supervisory Authority FINMA and any successor thereto.

"**First Call Date**" means 4 September 2024.

"**Fixed Interest Rate**" means 4.85 per cent. per annum.

"**Former Residence**" has the meaning assigned to such term in subclause (a)(v) of Condition 13 (*Issuer Substitution*).

"**Going-Concern LR Requirement**" means a requirement under National Regulations for systemically relevant banks (*systemrelevante Banken*) to hold a minimum amount of going-concern capital (*Eigenmittel zur ordentlichen Weiterführung der Bank*), which amount is set by reference to the leverage ratio (*Höchstverschuldungsquote*) of such bank.

"**Going-Concern RWA Requirement**" means a requirement under National Regulations for systemically relevant banks (*systemrelevante Banken*) to hold a minimum amount of going- concern capital (*Eigenmittel zur ordentlichen Weiterführung der Bank*), which amount is set by reference to the risk weighted assets (*risikogewichtete Positionen*) of such bank.

"**Group**" means, at any time, the Group Holding Company and all its subsidiaries and other entities that are included in the Group Holding Company's consolidated capital adequacy reports prepared pursuant to National Regulations.

"**Group Holding Company**" means, at any time, the top Swiss holding company at such time of the financial group to which UBS Group AG belongs for purposes of preparing consolidated capital adequacy reports pursuant to National Regulations. As at the Issue Date, the Group Holding Company is UBS Group AG.

"**Higher-Trigger Amount**" means, as of any Publication Date, the sum of (i) the maximum portion of the aggregate principal amount, in US dollars, of all Higher-Trigger Contingent Capital, if any, outstanding on the relevant Balance Sheet Date that could be converted into equity and/or fully or partially written down, or otherwise operate to increase the CET1 Capital, if a Higher-Trigger Write-down/Conversion Notice were delivered in accordance with the terms thereof, and (ii) the maximum portion of the aggregate principal amount, in US dollars, of all Higher-Trigger Contingent Capital, if any, issued after the relevant Balance Sheet Date, but prior to such Publication Date, that could be converted into equity and/or fully or partially written down, or otherwise operate to increase the CET1 Capital, if a Higher-Trigger Write-down/Conversion Notice were delivered in accordance with the terms thereof, in the case of each of clauses (i) and (ii), as determined by UBS Group AG. For purposes of clause (ii) of this definition and, in the case of an Extraordinary Publication Date, clause (i) of this definition, the aggregate principal amount of any Higher-Trigger Contingent Capital that is not denominated in US dollars will be converted into US dollars at the applicable prevailing exchange rate on the last Business Day preceding the relevant Publication Date, as determined by UBS Group AG. In the case of an Ordinary Publication Date, for purposes of clause (i) of this definition, the aggregate principal amount of any Higher- Trigger Contingent Capital that is not denominated in US dollars will be converted into US dollars at the applicable exchange rate used for such purposes in the relevant Quarterly Financial Accounts.

"**Higher-Trigger Contingent Capital**" means any instrument issued by, or any other obligation of, any member of the Group that (i) is issued or owed to holders that are not members of the Group and (ii) is required pursuant to its terms to be converted into equity and/or fully or partially written down, or otherwise operating to increase the CET1 Capital, when the CET1 Ratio (or equivalent capital measure of the Group described in the terms and conditions thereof) falls below a threshold that is higher than the Write-down Threshold (with respect to the relevant Higher-Trigger Contingent Capital, its "**Higher-Trigger Threshold**").

"**Higher-Trigger Threshold**" has the meaning assigned to such term in the definition of the term "**Higher-Trigger Contingent Capital**".

"**Higher-Trigger Write-down/Conversion Date**" has the meaning assigned to such term in the definition of the term "Higher-Trigger Write-down/Conversion Notice".

"**Higher-Trigger Write-down/Conversion Notice**" means a notice delivered pursuant to the terms of any Higher-Trigger Contingent Capital that notifies the holders thereof that the CET1 Ratio (or similar measure or other event described in the terms and conditions of such Higher-Trigger Contingent Capital) has fallen below its Higher-Trigger Threshold and, consequently, that such Higher-Trigger Contingent Capital will be converted into equity and/or fully or partially written down, or otherwise operate to increase the CET1 Capital, as applicable, as of a particular date (such date, the "**Higher-Trigger Write-down/Conversion Date**"). For the avoidance of doubt, if the terms and conditions of such Higher-Trigger Contingent Capital permit the FINMA to waive the conversion into equity and/or write-down of such Higher-Trigger Contingent Capital notwithstanding the fact that the CET1 Ratio (or similar measure or other event described in the terms and conditions of such Higher-Trigger Contingent Capital) has fallen below Higher-Trigger Threshold, the non-issuance of such a waiver by the FINMA between the relevant Publication Date and the Trigger Event Notice Date shall be deemed equivalent to the delivery of a Higher-Trigger Write-down/Conversion Notice for purposes of subclause (b)(ii) of Condition 6 (*Contingent Write-down*).

"**Holder**" means, with respect to any Note, the person or persons holding such Note in a securities account (*Effektenkonto*) that is in its or their name, or, in the case of intermediaries (*Verwahrungsstellen*), the intermediary or intermediaries holding the Notes for its or their own account in a securities account (*Effektenkonto*) that is in its or their name.

"**Independent Adviser**" means an independent financial institution of international repute or other independent financial adviser experienced in the international capital markets, in each case, appointed by the Issuer at its own expense.

"**Independent Adviser Determination Cut-off Date**" has the meaning assigned to such term in subclause (c)(i) of Condition 4 (*Interest*).

"**Interest Payment Date**" has the meaning assigned to such term in subclause (a)(ii) of Condition 4 (*Interest*).

"**Interest Period**" means each period beginning on (and including) an Interest Payment Date (or, in the case of the first Interest Period, the Issue Date) and ending on (but excluding) the next Interest Payment Date.

"**Interest Rate**" means the Fixed Interest Rate and/or Reset Interest Rate, as the case may be.

"**Intermediary**" has the meaning assigned to such term in clause (b) of Condition 2 (*Amount and Denomination; Form and Transfer*).

"**Intermediated Securities**" has the meaning assigned to such term in clause (b) of Condition 2 (*Amount and Denomination; Form and Transfer*).

"**Issue Date**" means 4 September 2019.

"**Issuer**" means UBS Group AG in its capacity as issuer of the Notes.

"**Junior Obligations**" means (i) all classes of share capital and participation securities (if any) of the Issuer and (ii) all other obligations of the Issuer that rank, or are expressed to rank, junior to claims in respect of the Notes and/or any Parity Obligation.

"**Margin**" means 3.372 per cent. per annum.

"**National Regulations**" means, at any time, (i) the Swiss national banking and capital adequacy laws, and (ii) the capital adequacy regulations promulgated by the Swiss Federal Council (*Bundesrat*) or the FINMA and the interpretation thereof by the FINMA or any other competent Swiss authority, in the case of each of clauses (i) and (ii), directly applicable to UBS Group AG (and/or, if different, the Group Holding Company) and/or the Group at such time.

"**New Residence**" has the meaning assigned to such term in subclause (a)(i)(E) of Condition 13 (*Issuer Substitution*).

"**Notes**" means the SGD 750,000,000 4.85 per cent. Tier 1 Capital Notes issued by the Issuer on the Issue Date.

"**Ordinary Publication Date**" means each Business Day on which Quarterly Financial Accounts are published.

"**Ordinary Shares**" means the registered ordinary shares of UBS Group AG.

"**Ordinary Trigger Event Notice Date**" has the meaning assigned to such term in subclause (b)(i) of Condition 6 (*Contingent Write-down*).

"**Parity Obligations**" means (i) all obligations of the Issuer in respect of Tier 1 Instruments (excluding any such obligations that rank, or are expressed to rank, junior to claims in respect of the Notes), and (ii) any other securities or obligations (including, without limitation, any guarantee, credit support agreement or similar undertaking) of the Issuer that rank, or are expressed to rank, *pari passu* with claims in respect of the Notes and/or any Parity Obligation.

"**Paying Agent**" has the meaning assigned to such term in clause (b) of Condition 7 (*Payments*).

"**Payment Business Day**" means a day (other than a Saturday or a Sunday) on which commercial banks and foreign exchange markets settle payments and are open for general business (including, without limitation, dealing in foreign exchange and foreign currency deposits) in London and Singapore.

"**Permitted Transactions**" means:

(a) repurchases, redemptions or other acquisitions of any Ordinary Shares in connection with (x) any employment contract, benefit plan or similar arrangement with, or for the benefit of, any employees, officers, directors or consultants of any member of the Group, (y) a dividend reinvestment or shareholder share purchase plan or (z) the issuance of any Ordinary Shares (or securities convertible into, or exercisable for, Ordinary Shares) as consideration for an acquisition consummated by any member of the Group;

(b) market-making in Ordinary Shares as part of the securities business of any member of the Group;

(c) purchases of fractional interests in any Ordinary Shares pursuant to the conversion or exchange provisions of (x) such Ordinary Shares or (y) any security convertible into, or exercisable for, Ordinary Shares;

(d) redemptions or repurchases of Ordinary Shares pursuant to any shareholders' rights plan; and

(e) distributions in cash or in kind on, or repurchases, redemptions or other acquisitions of, any Ordinary Shares as a part of any solvent reorganisation, reconstruction, amalgamation or merger of any member of the Group, so long as such member (or the successor entity resulting from such reorganisation, reconstruction, amalgamation or merger) continues to be a member of the Group.

"**Principal Paying Agent**" means UBS AG, in its capacity as principal paying agent for the Notes, and includes any successor Principal Paying Agent appointed in accordance with the terms of the Agency Agreement.

"**Public Sector**" means the government of, or a governmental agency or the central bank in, the country of incorporation of the Group Holding Company.

"**Publication Date**" means an Ordinary Publication Date or an Extraordinary Publication Date, as the case may be.

"**Quarterly Financial Accounts**" means (i) the financial statements of the Group (including, without limitation, the notes thereto) in respect of a financial quarter published by the Group Holding Company, which have been reviewed by the Auditor in accordance with the International Standards on Auditing; *provided, however*, that, if the financial statements of the Group in respect of the last quarter of any year are not so reviewed, the term "Quarterly Financial Accounts" in respect of such quarter will mean instead the annual financial statements of the Group (including, without limitation, the notes thereto) in respect of such year, which have been audited by the Auditor in accordance with the International Standards on Auditing and are published in the annual report of the Group Holding Company for such year, or (ii) in the event that the Group does not publish quarterly financial statements as described in clause (i) of this definition, the financial disclosures published by the Group pursuant to and in compliance with FINMA Circular 2016/01 "Capital Adequacy Disclosures Banks", as amended from time to time, or pursuant to and in compliance with any successor circular or regulation applicable to the Group Holding Company, *provided* that such financial disclosures are published for each financial quarter and the interim earnings included in such disclosures have been reviewed by the Auditor in accordance with International Standards on Auditing.

"**Redemption Date**" has the meaning assigned to such term in subclause (e)(i) of Condition 5 (*Redemption and Purchase*).

"**Redemption Notice**" has the meaning assigned to such term in subclause (e)(i) of Condition 5 (*Redemption and Purchase*).

"**Reference Rate**" means, in relation to a Reset Interest Period and the Reference Rate Determination Date in relation to such Reset Interest Period:

(a) the rate appearing under the column headed "ASK" for a maturity of five years that appears under the caption "*Tullett Prebon – Rates – Interest Rate Swaps – Asia Pac – SGD*" on the Relevant Page as of the Relevant Time on such Reference Rate Determination Date; or

(b) if such rate does not appear on the Relevant Page at the Relevant Time on such Reference Rate Determination Date, the Reset Reference Bank Rate on such Reference Rate Determination Date.

"**Reference Rate Determination Date**" means, in relation to a Reset Interest Period, the day falling two Business Days prior to the Reset Date on which such Reset Interest Period commences.

"**Regulatory Event**" has the meaning assigned to such term in subclause (d)(ii) of Condition 5 (*Redemption and Purchase*).

"**Relevant Accounts**" means, in respect of any Interest Payment Date, the most recently published audited unconsolidated annual financial statements of UBS Group AG prepared in accordance with the Swiss Code.

"**Relevant Date**" means, with respect to any payment, (i) the date on which such payment first becomes due under the Notes (the "**Scheduled Due Date**"), or (ii) if the full amount of the money payable on the Scheduled Due Date has not been received by the Principal Paying Agent on or before the Scheduled Due Date, the date on which the full amount of the money due on the Scheduled Due Date has been received by the Principal Paying Agent.

"**Relevant Page**" means Bloomberg Screen TPIS or such other page as may replace it on Bloomberg or, as the case may be, on such other information service that may replace Bloomberg, in each case, as may be nominated by the person providing or sponsoring the information appearing there for the purpose of displaying rates comparable to the Reference Rate.

"**Relevant Time**" means 11:00 a.m. (Singapore time).

"**Relevant Swiss Issuer**" means, at any time, any bank, or any member of a banking group (including, without limitation, the Group), that is subject to a Going-Concern LR Requirement and a Going-Concern RWA Requirement at such time.

"**Reset Date**" means the First Call Date and each day that falls on the fifth anniversary of the immediately preceding Reset Date.

"**Reset Interest Amount**" has the meaning assigned to such term in clause (b) of Condition 4 (*Interest*).

"**Reset Interest Period**" means each period from (and including) any Reset Date and ending on (but excluding) the next Reset Date.

"**Reset Interest Rate**" means, in relation to any Reset Interest Period, the sum of the Margin and the Reference Rate in relation to such Reset Interest Period.

"**Reset Reference Bank Rate**" means, in relation to a Reset Interest Period and the Reference Rate Determination Date in relation to such Reset Interest Period, the percentage rate determined by the Calculation Agent as follows:

(a) the Calculation Agent will request the principal Singapore offices of each of the Reset Reference Banks to provide it with such Reset Reference Bank's swap offer rates for a duration of five years at close of business in Singapore on the Business Day immediately following the Reference Rate Determination Date; and

(b) if at least three quotations are provided, the Reset Reference Bank Rate will be the arithmetic mean of the quotations provided, eliminating the highest quotation (or, in the event of equality, one of the highest) and the lowest quotation (or, in the event of equality, one of the lowest);

(c) if only two quotations are provided, the Reset Reference Bank Rate will be the arithmetic mean of the quotations provided; and

(d) if only one quotation is provided, the Reset Reference Bank Rate will be the quotation provided; and

(e) if no quotations are provided, the Reset Reference Bank Rate for the relevant Reset Interest Period will be (i) in the case of each Reset Interest Period other than the Reset Interest Period commencing on the First Call Date, the Reference Rate in respect of the immediately preceding Reset Interest Period, or (ii) in the case of the Reset Interest Period commencing on the First Call Date, 4.85 per cent. per annum.

"**Reset Reference Banks**" means five major banks in the Singapore interbank market, as selected by the Issuer after consultation with the Calculation Agent.

"**Reviewed Interim Measurement**" means an interim measurement of the CET1 Ratio, with respect to which the Auditor has performed procedures in accordance with the International Standard on Related Services (and relevant Swiss standards and practices) applicable to agreed- upon procedures engagements.

"**Scheduled Due Date**" has the meaning assigned to such term in the definition of the term "Relevant Date".

"**Senior Obligations**" means all obligations of the Issuer that are unsubordinated or that are subordinated and do not constitute either Junior Obligations or Parity Obligations.

"**SGD**" means Singapore dollars.

"**Substitute Issuer**" has the meaning assigned to such term in subclause (a) of Condition 13 (*Issuer Substitution*).

"**Substitution Documents**" has the meaning assigned to such term in subclause (a)(iv) of Condition 13 (*Issuer Substitution*).

"**Substitution or Amendment Effective Date**" has the meaning assigned to such term in subclause (a)(iii) of Condition 11 (*Substitution and Amendment*).

"**Substitution or Amendment Notice**" has the meaning assigned to such term in subclause (a)(iii) of Condition 11 (*Substitution and Amendment*).

"**Swiss Code**" means the Swiss Code of Obligations, as amended from time to time.

"**Tax Event**" has the meaning assigned to such term in subclause (c)(ii) of Condition 5 (*Redemption and Purchase*).

"**Tax Jurisdiction**" means Switzerland.

"**Taxes**" has the meaning assigned to such term in clause (a) of Condition 8 (*Taxation*).

"**Tier 1 Capital**" means Additional Tier 1 Capital or any item that qualifies as common equity tier 1 capital pursuant to National Regulations.

"**Tier 1 Instruments**" means any and all (i) securities or other obligations (other than Tier 1 Shares) issued by UBS Group AG or (ii) shares, securities, participation securities or other obligations (other than Tier 1 Shares) issued by a subsidiary of UBS Group AG and having the benefit of a guarantee, credit support agreement or similar undertaking of UBS Group AG, each of which shares, securities, participation securities or other obligations described in clauses (i) and
(ii) of this definition qualify, or are issued in respect of a security that qualifies, as Tier 1 Capital of the Group and/or UBS Group AG (without regard to quantitative limits on such capital) on a consolidated (*Finanzgruppe*) or on an unconsolidated (*Einzelinstitut*) basis.

"**Tier 1 Shares**" means all classes of share capital and participation certificates (if any) of UBS Group AG or any subsidiary of UBS Group AG that qualify as common equity tier 1 capital of the Group and/or UBS Group AG under National Regulations on a consolidated (*Finanzgruppe*) or on an unconsolidated (*Einzelinstitut*) basis.

"**Trigger Breach Determination Date**" has the meaning assigned to such term in subclause (b)(i) of Condition 6 (*Contingent Write-down*).

"**Trigger CET1 Ratio**" means, as of any Publication Date, (i) the sum of (x) the CET1 Capital as of the relevant Balance Sheet Date and (y) the Higher-Trigger Amount as of such Publication Date, divided by (ii) the BIS Risk Weighted Assets as of the relevant Balance Sheet Date, expressed as a percentage.

"**Trigger Event**" has the meaning assigned to such term in subclause (a)(ii) of Condition 6 (*Contingent Write-down*).

"**Trigger Event Notice Date**" means an Ordinary Trigger Event Notice Date or an Extraordinary Trigger Event Notice Date, as the case may be.

"**Trigger Event Write-down Date**" has the meaning assigned to such term in the definition of the term "**Trigger Event Write-down Notice**".

"**Trigger Event Write-down Notice**" means, with respect to any Publication Date, a notice
(i) stating that (x) the Trigger CET1 Ratio as of such Publication Date is less than the Write-down Threshold, and (y) a Contingent Write-down will take place and (ii) specifying the date on which the Contingent Write-down will take place, which date shall, subject to postponement pursuant to subclause (b)(ii) of Condition 6 (*Contingent Write-down*), be no later than ten Business Days after the date of such notice (the "**Trigger Event Write-down Date**").

"**Viability Event**" has the meaning assigned to such term in subclause (c)(ii) of Condition 6 (*Contingent Write-down*).

"**Viability Event Write-down Date**" has the meaning assigned to such term in subclause (c)(i) of Condition 6 (*Contingent Write-down*).

"**Viability Event Write-down Notice**" has the meaning assigned to such term in subclause (c)(ii) of Condition 6 (*Contingent Write-down*).

"**Write-down Date**" means, with respect to any Contingent Write-down, the Trigger Event Write- down Date or Viability Event Write-down Date, as applicable.

"**Write-down Notice**" means, with respect to any Contingent Write-down, the relevant Trigger Event Write-down Notice or Viability Event Write-down Notice, as applicable.

"**Write-down Notice Date**" means, with respect to any Contingent Write-down, the date of the relevant Write-down Notice.

"**Write-down Threshold**" means 7 per cent.

2. AMOUNT AND DENOMINATION; FORM AND TRANSFER

(a) Amount and denomination

The initial aggregate principal amount of the Notes will be SGD 750,000,000. The Notes will be issued to Holders in minimum denominations of SGD 250,000 and integral multiples of SGD 250,000 in excess thereof. The principal amount of the Notes may be written down in the circumstances and in the manner described in Condition 6 (*Contingent Write-down*). The Notes may only be held and transferred in minimum denominations of SGD 250,000 and integral multiples of SGD 250,000 in excess thereof.

(b) Uncertificated securities

The Notes are issued in uncertificated form as uncertificated securities (*Wertrechte*) in accordance with article 973c of the Swiss Code. The uncertificated securities (*Wertrechte*) will be created by the Issuer by means of a registration in its register of uncertificated securities (*Wertrechtebuch*). Such uncertificated securities will then be entered into the main register (*Hauptregister*) of SIX SIS Ltd or any other intermediary in Switzerland recognised for such purposes by SIX Swiss Exchange Ltd (SIX SIS Ltd or any such other intermediary, the "**Intermediary**"). Once the uncertificated securities are registered in the main register (*Hauptregister*) of the Intermediary and entered into the accounts of one or more participants of the Intermediary, the Notes will constitute intermediated securities (*Bucheffekten*) within the meaning of the Swiss Federal Intermediated Securities Act (*Bucheffektengesetz*) ("**Intermediated Securities**").

So long as the Notes are Intermediated Securities, the Notes may only be transferred by the entry of the transferred Notes in a securities account of the transferee.

The records of the Intermediary will determine the number of Notes held through each participant in the Intermediary.

Neither the Issuer nor any Holder nor any other person shall at any time have the right to effect or demand the conversion of the uncertificated securities (*Wertrechte*) into, or the delivery of, a global note (*Globalurkunde*) or definitive Notes (*Wertpapiere*).

3. STATUS AND SUBORDINATION

(a) Status

The Notes constitute direct, unsecured and subordinated obligations of the Issuer and rank *pari passu* and without any preference among themselves. The rights and claims of the Holders against the Issuer under the Notes are subordinated as described in clause (b) of this Condition 3.

(b) Subordination

In the event of (i) a Bankruptcy Event or (ii) an order being made, or an effective resolution being passed, for the liquidation or winding-up of the Issuer (except, in any such case, a solvent liquidation or winding-up of the Issuer solely for the purposes of a reorganisation, reconstruction or amalgamation of the Issuer or the substitution in place of the Issuer of a successor in business to the Issuer, the terms of which reorganisation, reconstruction, amalgamation or substitution (x) have previously been approved by a valid resolution of the Holders and (y) do not provide that the Notes shall become redeemable in accordance with these Terms and Conditions), the rights and claims of the Holders against the Issuer in respect of or arising under (including, without limitation, any damages awarded for breach of any obligation under) the Notes will, subject to any obligations that are mandatorily preferred by law, rank (A) junior to the rights and claims of all holders of Senior Obligations, (B) *pari passu* with the rights and claims of holders of Parity Obligations and (C) senior to the rights and claims of holders of Junior Obligations.

(c) Claims subject to a Contingent Write-down

Any claim of any Holder in respect of or arising under the Notes (including, without limitation, any claim in relation to any unsatisfied payment obligation of the Issuer subject to enforcement by any Holder pursuant to Condition 10 (*Events of Default*) or in relation to the occurrence of any other Event of Default) will be subject to, and superseded by, clause (d) of Condition 6 (*Contingent Write-down*), irrespective of whether the relevant Write-down Notice has been given prior to or after the occurrence of an Event of Default or any other event.

4. INTEREST

(a) Interest Payment Dates

(i) Subject to Condition 6 (*Contingent Write-down*) and clause (i) of this Condition 4, the Notes will bear interest on their principal amount (A) from (and including) the Issue Date to (but excluding) the First Call Date, at the Fixed Interest Rate, and (B) thereafter, at the applicable Reset Interest Rate.

(ii) Subject to Condition 6 (*Contingent Write-down*) and clause (j) of this Condition 4, interest on the Notes will be payable semi-annually in arrear on 4 September and 4 March of each year (each, an "**Interest Payment Date**"), commencing on 4 March 2020.

(b) Determination of Reference Rate in relation to a Reset Interest Period

With respect to each Reset Interest Period and subject to clause (c) of this Condition 4, the Calculation Agent will, as soon as practicable after the Relevant Time on the Reference Rate Determination Date in relation to such Reset Interest Period, determine the Reference Rate and the Reset Interest Rate for such Reset Interest Period and calculate the amount of interest payable per Calculation Amount on the Interest Payment Date in relation to each Interest Period falling in such Reset Interest Period (each, a "**Reset Interest Amount**").

(c) Benchmark replacement

If the Issuer (in consultation with the Calculation Agent) determines prior to any Reference Rate Determination Date that the rate referred to in clause (a) of the definition of Reference Rate (the "**Existing Benchmark Rate**") has been discontinued, then the following provisions shall apply (subject to the subsequent operation of this clause (c)):

(i) the Issuer shall use reasonable endeavours to appoint an Independent Adviser to determine in the Independent Adviser's discretion, in accordance with subclause (iv) below, an alternative rate (the "**Alternative Benchmark Rate**") no later than three Business Days prior to the Reference Rate Determination Date relating to the next succeeding Reset Interest Period (such Business Day, the "**Independent Adviser Determination Cut-off Date**", and such next succeeding Reset Interest Period, the "**Affected Reset Interest Period**") for purposes of determining the Reference Rate in respect of the Affected Reset Interest Period and all Reset Interest Periods thereafter;

(ii) if prior to the Independent Adviser Determination Cut-off Date the Issuer is unable to appoint an Independent Adviser or the Independent Adviser appointed by the Issuer fails to determine an Alternative Benchmark Rate in accordance with subclause (iv) below, then the Issuer (in consultation with the Calculation Agent) may determine in its discretion, in accordance with subclause (iv) below, the Alternative Benchmark Rate for purposes of determining the Reference Rate in respect of the Affected Reset Interest Period and all Reset Interest Periods thereafter;

(iii) if subclause (ii) above applies and the Issuer is unable or unwilling to determine the Alternative Benchmark Rate prior to the Reference Rate Determination Date relating to the Affected Reset Interest Period in accordance with subclause (iv) below, the Reference Rate in respect of the Affected Reset Interest Period shall

be equal to the Reference Rate in respect of the immediately preceding Reset Interest Period (or, if there is no preceding Reset Interest Period, the Reset Interest Rate applicable to the Affected Reset Interest Period will be equal to the Fixed Interest Rate); *provided, however,* that, if this subclause (iii) applies to the Affected Reset Interest Period, the Reset Interest Rate for all succeeding Reset Interest Periods shall be the Reset Interest Rate applicable to the Affected Reset Interest Period as determined in accordance with this subclause (iii) unless (A) the Issuer, in its sole discretion, elects to determine an Alternative Benchmark Rate in respect of any such succeeding Reset Interest Period and all Reset Interest Periods thereafter in accordance with the processes set out in this clause (c), and
(B) an Alternative Benchmark Rate is so determined;

(iv) in the case of any determination of an Alternative Benchmark Rate pursuant to subclause (i) or (ii) above, the Alternative Benchmark Rate shall be such rate as the Independent Adviser or the Issuer (in consultation with the Calculation Agent and acting in good faith and a commercially reasonable manner), as applicable, determines in its reasonable discretion has replaced the Existing Benchmark Rate in customary market usage, or, if the Independent Adviser or the Issuer, as applicable, determines in its reasonable discretion that there is no such rate, such other rate as the Independent Adviser or the Issuer (in consultation with the Calculation Agent and acting in good faith and a commercially reasonable manner) determines in its reasonable discretion is most comparable to the Existing Benchmark Rate; and

(v) if the Independent Adviser or the Issuer determines an Alternative Benchmark Rate in accordance with the above provisions of this clause (c),

(A) the Independent Adviser (in the case of subclause (2) below, in consultation with the Issuer) or the Issuer (as the case may be) shall also, following consultation with the Calculation Agent, determine in its reasonable discretion (1) the method for obtaining the Alternative Benchmark Rate, including the screen page on or source from which the Alternative Benchmark Rate appears or is obtained (the "**Alternative Relevant Page**"), and the time at which the Alternative Benchmark Rate appears on, or is obtained from, the Alternative Relevant Page (the "**Alternative Relevant Time**"), (2) whether to apply an Adjustment Spread to the Alternative Benchmark Rate and, if so, the Adjustment Spread, which Adjustment Spread must be recognised or acknowledged as being in customary market usage in international debt capital markets transactions that reference the Existing Benchmark Rate, where such rate has been replaced by the Alternative Benchmark Rate, and (3) any alternative method for determining the Reference Rate if such Alternative Benchmark Rate is unavailable on the relevant Reset Determination Date, which alternative method shall be consistent with any Alternative Benchmark Rate that has broad market support;

(B) for the Affected Reset Interest Period and all Reset Interest Periods thereafter, (1) clause (a) of the definition of Reference Rate shall be amended pursuant to clause (b) of Condition 11 (*Substitution and Amendment*) to give effect to the determination described in subclause (A)(1) above and any Adjustment Spread determined pursuant to subclause (A)(2) above, and (2) clause (b) of the definition of Reference Rate shall be amended pursuant to clause (b) of Condition 11 (*Substitution and Amendment*) to give effect to the determination described in subclause (A)(3) above;

(C) references to the Relevant Page and to the Relevant Time in these Terms and Conditions shall be deemed to be references to the Alternative Relevant Page and the Alternative Relevant Time;

(D) if any changes to the definitions of Day Count Fraction, Business Day, Payment Business Day and/or Reference Rate Determination Date are necessary in order to implement the amendments described in subclause (B) above and, if so, such definitions shall be amended pursuant to clause (b) of Condition 11 (*Substitution and Amendment*) to reflect such changes; and

(E) the Issuer shall promptly give notice to the Holders in accordance with Condition 12 (*Notices*) specifying the Alternative Benchmark Rate (including any Adjustment Spread determined pursuant to subclause (A)(2) above), the Alternative Relevant Page, the Alternative Relevant Time, any alternative method for determining the Reference Rate described in subclause (A)(3) above, and any amendments implemented pursuant to clause (b) of Condition 11 (*Substitution and Amendment*) as described in subclause (D) above.

(d) Publication of Reset Interest Rate and interest amount payable upon redemption

With respect to each Reset Interest Period, as soon as practicable after such determination but in any event not later than the relevant Reset Date, the Calculation Agent will cause
(i) the relevant Reset Interest Rate and the relevant Reset Interest Amount determined by it, together with the Interest Payment Date in relation to each Interest Period falling in such Reset Interest Period, to be notified to the Issuer and the Paying Agents and (ii) the relevant Reset Interest Rate determined by it to be notified to any stock exchange or other relevant authority on which the Notes are at the relevant time listed and to be published in accordance with Condition 12 (*Notices*).

The Calculation Agent shall calculate any interest amount payable on the Redemption Date (if the Notes are to be redeemed pursuant to Condition 5 (*Redemption and Purchase*) and cause such interest amount to be notified to Issuer and the Paying Agents and to any stock exchange or other relevant authority on which the Notes are at the relevant time listed and to be published in accordance with Condition 12 (*Notices*) no later than two Business Days prior to the Redemption Date.

(e) Calculation of amount of interest per Calculation Amount

Subject to Condition 6 (*Contingent Write-down*) and clause (j) of this Condition 4:

(i) the amount of interest payable per Calculation Amount on each Interest Payment Date from the Issue Date to (but excluding) the First Call Date in respect of the Notes will be calculated by:

(A) applying the Fixed Interest Rate to the Calculation Amount;

(B) multiplying the product thereof by the Day Count Fraction; and

(C) rounding the resulting figure to the nearest cent (half a cent being rounded upwards); and

(ii) if interest is required to be paid in respect of a Note on any other date (including, for the avoidance of doubt, the Reset Interest Amount), the amount of interest payable per Calculation Amount will be calculated by:

(A) applying the applicable Interest Rate to the Calculation Amount;

(B) multiplying the product thereof by the Day Count Fraction; and

(C) rounding the resulting figure to the nearest cent (half a cent being rounded upwards).

(f) Calculation of amount of interest per Note

Subject to Condition 6 (*Contingent Write-down*) and clause (j) of this Condition 5, the amount of interest payable in respect of a Note will be the product of:

(i) the amount of interest per Calculation Amount; and

(ii) the number by which the Calculation Amount is required to be multiplied to equal the denomination of such Note.

(g) Notifications, etc. to be final

All notifications, opinions, determinations, certificates, calculations, quotations and decisions given, expressed, made or obtained for the purposes this Condition 4, whether by the Reset Reference Banks (or any of them) or the Calculation Agent, will (in the absence of wilful default, bad faith and manifest error) be binding on the Issuer, the Calculation Agent, the Paying Agents and the Holders and (in the absence of wilful default and bad faith) no liability to the Issuer or the Holders will attach to the Reset Reference Banks (or any of them) or the Calculation Agent in connection with the exercise or non- exercise by the Calculation Agent of its powers, duties and discretions under this Condition 4.

(h) Calculation Agent

So long as any Note is outstanding, the Issuer will at all times maintain a Calculation Agent. If the Calculation Agent is unable or unwilling to act as such or if the Calculation Agent fails to (i) duly calculate the Reference Rate and the Reset Interest Amount for any Interest Period or the interest amount payable on the Redemption Date (if the Notes are to be redeemed pursuant to Condition 5 (*Redemption and Purchase*)) or (ii) comply with any other requirement in relation to the Notes, the Issuer shall appoint a leading bank or financial institution that is experienced in the calculations or determinations to be made by the Calculation Agent to act as such in the Calculation Agent's place. The Calculation Agent may not resign its duties without a successor having been appointed as aforesaid. Any termination or appointment of the Calculation Agent pursuant to this clause (h) shall take effect not more than 45 and not less than 30 days' after the Issuer has notified the Holders of such termination or appointment pursuant to Condition 12 (*Notices*); *provided*, *however*, that, in the case of insolvency of the Calculation Agent, such termination or appointment will take immediate effect.

(i) Accrual of interest in the case of redemption or a Write-down Event

(i) Subject to Condition 6 (*Contingent Write-down*), if the Notes are to be redeemed pursuant to clause (b), (c) or (d) of Condition 5 (*Redemption and Purchase*), interest on the Notes will accrue up to (but excluding) the relevant Redemption Date, and will cease to accrue on such Redemption Date; *provided*, *however*, that if the payment with respect to any Note is improperly withheld or refused on such Redemption Date, interest will continue to accrue on the principal amount of such Note (both before and after judgment) at the relevant Interest Rate to the Relevant Date.

(ii) Upon the occurrence of a Write-down Event, interest on the Notes will cease to accrue and any accrued and unpaid interest as at the time of such Write-down Event (whether or not due and payable) will be written down to zero in accordance with Condition 6 (*Contingent Write-down*).

(j) Cancellation of interest; prohibited interest

(i) The Issuer may, at its discretion, elect to cancel all or part of any payment of interest on the Notes (including, for the avoidance of doubt, any related Additional Amounts) that is otherwise scheduled to be paid on an Interest Payment Date. This subclause (j)(i) is without prejudice to the provisions of subclause (j)(ii) of this Condition 4. Non-payment of any amount of interest by the Issuer to the Principal Paying Agent will constitute evidence of cancellation of the relevant payment, whether or not notice of cancellation has been given by the Issuer.

If practicable, the Issuer shall provide notice of any cancellation of interest (in whole or in part) pursuant to this subclause (j)(i) to the Holders on or prior to the relevant Interest Payment Date. If practicable, the Issuer shall endeavour to provide such notice at least five Business Days prior to the relevant Interest Payment Date. Failure to provide such notice will not have any impact on the effectiveness of, or otherwise invalidate, any such cancellation of interest, or give Holders any rights as a result of such failure.

(ii) The Issuer will be prohibited from making, in whole or in part, any payment of interest on the Notes (including, for the avoidance of doubt, any related Additional Amounts) on the relevant Interest Payment Date if and to the extent that:

(A) the amount of Distributable Items as at such Interest Payment Date is less than the sum of (1) the amount of such interest payment, plus (2) all other payments (other than redemption payments) made by UBS Group AG on or in respect of the Notes or any Parity Obligations or Junior Obligations since the balance sheet date of the Relevant Accounts and prior to such Interest Payment Date, plus (3) all payments (other than redemption payments) payable by UBS Group AG on such Interest Payment Date on or in respect of any Parity Obligations or Junior Obligations, in the case of each of clauses (1), (2) and (3), excluding any portion of such payments already accounted for in determining the amount of such Distributable Items; and/or

(B) UBS Group AG is not, or will not immediately after the relevant payment of interest be, in compliance with all applicable minimum capital adequacy requirements of the National Regulations on a consolidated (*Finanzgruppe*) basis (for the avoidance of doubt, it being understood that such minimum requirements will reflect any reduction in such requirements granted by the FINMA to the Group pursuant to the Capital Adequacy Ordinance); and/or

(C) the FINMA has required the Issuer not to make such interest payment.

The Issuer shall deliver a certificate signed by the Authorised Signatories to the Principal Paying Agent and shall give notice in accordance with Condition 12 (*Notices*) to the Holders, in each case as soon as practicable following any determination that interest is required to be cancelled pursuant to this subclause (j)(ii) or, where no such prior determination is made, promptly following any Interest Payment Date on which interest was scheduled to be paid if such interest is being cancelled in accordance with this subclause (j)(ii), to such effect setting out brief details as to the amount of interest being cancelled and the reason therefor. Failure to provide such certificate and notice will not have any impact on the effectiveness of, or otherwise invalidate, any such cancellation or give any Holder any rights as a result of such failure.

(iii) If, on any Interest Payment Date, any payment of interest scheduled to be made on such date is not made in full pursuant to subclause (j)(i) or subclause (j)(ii) of this Condition 4, UBS Group AG shall not, directly or indirectly,

(A) recommend to holders of Ordinary Shares that any dividend or other distribution in cash or in kind (other than in the form of Ordinary Shares) be paid or made on any Ordinary Shares; and

(B) redeem, purchase or otherwise acquire any Ordinary Shares other than as a Permitted Transaction,

in each case unless and until (x) the interest payment due and payable on the Notes on any subsequent Interest Payment Date has been paid in full (or an amount equal to the same has been paid in full to a designated third party trust account for the benefit of the Holders prior to payment by the trustee thereof to the Holders on such subsequent Interest Payment Date) or, if earlier, (y) all outstanding Notes have been cancelled in accordance with these Terms and Conditions.

(iv) Payments of interest on the Notes are not cumulative. Notwithstanding any other provision in these Terms and Conditions, the cancellation or non-payment of any interest amount by virtue of this Condition 4(j) will not constitute a default for any purpose (including, without limitation, Condition 10 (*Events of Default*) on the part of the Issuer. Any interest payment not paid by virtue of this Condition 4(j) will not accumulate or be payable at any time thereafter, and Holders will have no right thereto.

(v) If UBS Group AG determines, after consultation with the FINMA, that the Notes do not, or will cease to, fully qualify as Additional Tier 1 Capital, (A) the Issuer shall not, to the extent permitted under National Regulations, exercise its discretion pursuant to subclause (j)(i) of this Condition 4 to cancel any interest payments due on the Notes on any Interest Payment Date following the occurrence of such determination, and (B) the Issuer shall give notice to the Holders in accordance with Condition 12 (*Notices*) as soon as practicable after such determination stating that the Issuer may no longer exercise its discretion pursuant to subclause (j)(i) of this Condition 4 to cancel any interest payments as from the date of such notice.

5. REDEMPTION AND PURCHASE

(a) No fixed redemption date

The Notes are perpetual securities in respect of which there is no fixed redemption date. Unless previously redeemed or purchased and cancelled in accordance with this Condition 5 and subject to Condition 6 (*Contingent Write-down*), the Notes are perpetual and may only be redeemed or purchased in accordance with this Condition 5.

(b) Redemption at the option of the Issuer

Subject to clause (e) of this Condition 5, the Issuer may elect, in its sole discretion, to redeem the Notes, in whole but not in part, on the First Call Date or on any other Interest Payment Date thereafter at their aggregate principal amount, together with any accrued and unpaid interest thereon to (but excluding) the First Call Date or such other Interest Payment Date, as applicable.

(c) Redemption due to a Tax Event

(i) Subject to clause (e) of this Condition 5, upon the occurrence of a Tax Event at any time after the Issue Date, the Issuer may elect, in its sole discretion, to redeem the Notes, in whole but not in part, on the relevant Redemption Date at their aggregate principal amount, together with any accrued and unpaid interest thereon to (but excluding) such Redemption Date.

(ii) A "**Tax Event**" will have occurred if the Issuer in making any payments on the Notes (A) has paid, or will or would on the next payment date be required to pay, Additional Amounts, or (B) has paid, or will or would be required to pay, any additional Tax in respect of the Notes, in the case of each of clauses (A) and (B), under the laws or regulations of a Tax Jurisdiction or any political subdivision thereof or any authority of or in a Tax Jurisdiction or any political subdivision thereof having the power to impose, levy, collect, withhold or assess Taxes, including, without limitation, any treaty to which a Tax Jurisdiction is a party, or any generally published application or interpretation of such laws (including, without limitation, a decision of any court or tribunal, any generally published application or interpretation of such laws by any relevant tax authority or any generally published pronouncement by any relevant tax authority), and the Issuer cannot avoid the foregoing by taking measures reasonably available to it.

(d) Redemption due to a Regulatory Event

(i) Subject to clause (e) of this Condition 5, upon the occurrence of a Regulatory Event at any time after the Issue Date, the Issuer may elect, in its sole discretion, to redeem the Notes, in whole but not in part, on the relevant Redemption Date at their aggregate principal amount, together with any accrued and unpaid interest thereon to (but excluding) such Redemption Date.

(ii) A "**Regulatory Event**" will have occurred if any of the Notes ceases to be eligible in full to be (A) treated as Additional Tier 1 Capital, and/or (B) counted towards either the Going-Concern LR Requirement or the Going-Concern RWA Requirement (or both).

(e) Conditions for redemption

(i) If the Issuer elects to redeem the Notes pursuant to clause (b), (c) or (d) of this Condition 5, the Issuer shall give the Holders not less than 30 and not more than 60 days' prior notice in accordance with Condition 12 (*Notices*) (a "**Redemption Notice**"), which notice shall, subject to clause (f) of this Condition 5, be irrevocable and specify the date on which the Issuer will redeem the Notes pursuant to such clause of this Condition 5 (such specified date, the "**Redemption Date**").

(ii) The Issuer may only redeem the Notes pursuant to clause (b) or (c) of this Condition 5 on the relevant Redemption Date if the FINMA has approved such redemption on or prior to such Redemption Date, if such approval is then required under applicable Swiss laws and regulations.

(iii) The Issuer may only redeem the Notes pursuant to any clause of this Condition 5 on the relevant Redemption Date if no Trigger Event or Viability Event has occurred prior to such Redemption Date.

(iv) Prior to the publication of any notice of redemption pursuant to subclause (e)(i) of this Condition 5, the Issuer shall deliver to the Principal Paying Agent (A) a certificate signed by two Authorised Signatories stating that the relevant requirement or circumstance giving rise to the right to redeem under this Condition 5 is satisfied and the reasons therefor and such certificate will be conclusive and binding on the Holders, and (B) an opinion of independent legal advisers of recognised standing to the effect that circumstances entitling the Issuer to exercise its right of redemption under this Condition 5 have arisen.

(f) Purchases

The Issuer or any other member of the Group or any of their respective affiliates may at any time purchase Notes at any price in the open market or otherwise, *provided* that
(i) such purchase complies with any limits or conditions to which any member of the Group is subject under applicable banking laws and regulations at the time of such purchase, (ii) other than in the case of purchases made in connection with stabilisation measures in compliance with applicable law or in connection with any market making in the Notes, the FINMA has approved such purchase (if such approval is then required under applicable Swiss laws and regulations) on or prior to the date of such purchase, and (iii) no Trigger Event or Viability Event has occurred prior to the date of such purchase. Any Notes so purchased may, at the option of the Issuer, be held, reissued, resold or cancelled.

(g) Cancellation

All Notes redeemed in accordance with this Condition 5 will be cancelled and may not be reissued or resold.

(h) Redemption of Other Instruments

For the avoidance of doubt, it is understood that, if, upon the occurrence of a Tax Event or a Regulatory Event, the Issuer does not elect to redeem the Notes pursuant to this Condition 5, nothing in this Condition 5 or any other provision of these Terms and

Conditions will prohibit the Issuer from redeeming (whether early, at maturity or otherwise) any other instruments issued by any member of the Group pursuant to the terms thereof.

6. CONTINGENT WRITE-DOWN

(a) Trigger Event

(i) Upon the occurrence of a Trigger Event, a Contingent Write-down will occur on the Trigger Event Write-down Date in accordance with clause (d) of this Condition 6.

(ii) A "**Trigger Event**" will have occurred if the Issuer gives the Holders a Trigger Event Write-down Notice in accordance with clause (b) of this Condition 6.

(b) Trigger Event Write-down Notice

(i) If, with respect to any Publication Date, the Trigger CET1 Ratio as of such Publication Date is less than the Write-down Threshold, the Issuer shall, subject to subclauses (b)(ii) and (b)(iii) of this Condition 6, give a Trigger Event Write- down Notice to the Holders (x) if such Publication Date is an Ordinary Publication Date, within five Business Days of such Ordinary Publication Date (such fifth Business Day, the "**Trigger Breach Determination Date**", and the date of such notice, the "**Ordinary Trigger Event Notice Date**"), and (y) if such Publication Date is an Extraordinary Publication Date, on such Extraordinary Publication Date (the "**Extraordinary Trigger Event Notice Date**"), in each case in accordance with Condition 12 (*Notices*).

(ii) If a Trigger Event Write-down Notice is required to be given pursuant to subclause (b)(i) of this Condition 6, and on the relevant Publication Date any Higher-Trigger Contingent Capital is outstanding with respect to which either
(x) no Higher-Trigger Write-down/Conversion Notice has been given prior to the Trigger Event Notice Date or (y) a Higher-Trigger Write-down/Conversion Notice has been given prior to the Trigger Event Notice Date, but the Trigger Event Write-down Date is scheduled to occur prior to the relevant Higher-Trigger Write-down/Conversion Date,

(A) in the case of clause (x) above, the giving of such Trigger Event Write- down Notice will be postponed until the date on which a Higher-Trigger Write-down/Conversion Notice has been given with respect to all such outstanding Higher-Trigger Contingent Capital and such date will be deemed to be the Trigger Event Notice Date; and

(B) in the case of clauses (x) and (y) above, if the Trigger Event Write-down Date is scheduled to occur prior to the Higher-Trigger Write-down/Conversion Date (or, in the case of more than one Higher-Trigger Write-down/Conversion Date, the latest Higher-Trigger Write- down/Conversion Date), the Trigger Event Write-down Date will be postponed to the Higher-Trigger Write-down/Conversion Date (or the latest Higher-Trigger Write-down/Conversion Date, as applicable) and such postponement shall be specified in such Trigger Event Write-down Notice.

(iii) If (A) a Trigger Event Write-down Notice is required to be given pursuant to subclause (b)(i) of this Condition 6 in relation to an Ordinary Publication Date, and (B) prior to the earlier of the Ordinary Trigger Event Notice Date and the Trigger Breach Determination Date, the FINMA, upon the request of UBS Group AG, has agreed in writing that a Contingent Write-down is not required as a result of actions taken by the Group or circumstances or events, in each case, that have had, or imminently will have, the effect of restoring the CET1 Ratio as of the Balance Sheet Date relating to the relevant Ordinary Publication Date, after giving pro forma effect to such actions, circumstances or events, to a level above the Write-down Threshold that the FINMA and UBS Group AG deem, in their sole discretion, to be adequate at such time, (x) the Issuer shall not give such Trigger Event Write-down Notice pursuant to subclause (b)(i) of this Condition 6 in relation to the relevant Ordinary Publication Date, and (y) the Issuer shall give notice to the Holders on or prior to the Trigger Breach Determination Date in accordance with Condition 12 (*Notices*), which notice shall state that no Contingent Write-down will occur in relation to the relevant Ordinary Publication Date.

(c) Viability Event

(i) Subject to clause (f) of this Condition 6, upon the occurrence of a Viability Event, (A) the Issuer shall give notice to the Holders in accordance with Condition 12 (*Notices*) within three days of the date on which such Viability Event occurred, which notice shall (x) state that a Viability Event has occurred and a Contingent Write-down will take place and (y) specify the date on which the Contingent Write-down will take place, which date shall be no later than ten Business Days after the date of such notice (such specified date, the "**Viability Event Write- down Date**", and such notice, a "**Viability Event Write-down Notice**"), and
(B) a Contingent Write-down will occur on the Viability Event Write-down Date in accordance with clause (d) of this Condition 6.

(ii) A "**Viability Event**" will have occurred if prior to an Alternative Loss Absorption Date (if any):

(A) the FINMA has notified UBS Group AG in writing that it has determined a write-down of the Notes, together with the conversion or write-down, as applicable, of holders' claims in respect of all other capital instruments issued by, or other capital obligations (whether qualifying fully or partially for capital treatment) of, any member of the Group that, pursuant to their terms or by operation of law, are capable of being converted into equity or written down at that time, is, because customary measures to improve the Group Holding Company's capital adequacy are at the time inadequate or infeasible, an essential requirement to prevent the Group Holding Company from becoming insolvent, bankrupt, unable to pay a material part of its debts as they fall due or unable to carry on its business; or

(B) customary measures to improve the Group Holding Company's capital adequacy being at the time inadequate or infeasible, the Group Holding Company has received an irrevocable commitment of direct or indirect extraordinary support from the Public Sector (beyond customary transactions and arrangements in the ordinary course) that has, or imminently will have, the effect of improving the Group Holding Company's capital adequacy and without which, in the determination of (and as notified in writing by) the FINMA, the Group Holding Company would have become insolvent, bankrupt, unable to pay a material part of its debts as they fall due or unable to carry on its business.

For the avoidance of doubt, it is understood that, a Viability Event may occur irrespective of whether or not a Trigger Event has occurred or whether any of the conditions to the issuance of a Trigger Event Write-down Notice have been met.

(d) Contingent Write-down

If the Issuer has given a Write-down Notice in accordance with this Condition 6, then on the relevant Write-down Date,

(i) the full principal amount of, and any accrued and unpaid interest (whether or not due and payable) on, each Note will automatically be written down to zero, the Notes will be cancelled and all references to the principal amount of the Notes in these Terms and Conditions will be construed accordingly;

(ii) the Holders will be automatically deemed to have irrevocably waived their right to receive, and will no longer have any rights against the Issuer with respect to, repayment of the aggregate principal amount of, and payment of any accrued and unpaid interest on, the Notes written down pursuant to subclause (i) of this clause (d) (*bedingter Forderungsverzicht*); and

(iii) all rights of any Holder for payment of any amounts under or in respect of the Notes (including, without limitation, any amounts arising as a result of, or due and payable upon the occurrence of, an Event of Default) will become null and void, irrespective of whether such amounts have become due and payable prior to the relevant Write-down Notice Date or the Write-down Date.

(e) Determination of CET1 Ratio and Trigger CET1 Ratio

With respect to any Publication Date, (i) the CET1 Ratio as of the relevant Balance Sheet Date, (ii) the Trigger CET1 Ratio as of such Publication Date and (iii) the components of both of the foregoing, in each case, as published on such Publication Date, will be final for purposes of this Condition 6, and any revisions, restatements or adjustments to any of the calculations described in subclauses (i) through (iii) of this clause (e) subsequently published will have no effect for purposes of this Condition 6.

(f) Alternative loss absorption

In the event of the implementation of any new, or amendment to or change in the interpretation of any existing, laws or components of National Regulations, in each case occurring after the Issue Date, that alone or together with any other law(s) or regulation(s) has, in the joint determination of UBS Group AG and the FINMA, the effect that clause (c) of this Condition 6 could cease to apply to the Notes without giving rise to a Regulatory Event, then the Issuer shall give notice to the Holders in accordance with Condition 12 (*Notices*) no later than five Business Days after such joint determination stating that such provisions will cease to apply from the date of such notice (the "**Alternative Loss Absorption Date**"), and from the date of such notice, such provisions will cease to apply to the Notes.

7. PAYMENTS

(a) All payments required to be made under the Notes will be made available in good time in freely disposable funds in SGD, which will be placed at the free disposal of the Principal Paying Agent on behalf of the Holders. If the Scheduled Due Date for any payment (whether in respect of principal, interest or otherwise) in respect of the Notes is not a Payment Business Day, then the Holders will not be entitled to payment thereof until the first Payment Business Day immediately following the Scheduled Due Date, and the Holders will not be entitled to any additional sum in relation to such payment. All payments required to be made under the Notes (including, for the avoidance of doubt, any Additional Amounts) shall be made to the Holders in SGD without collection costs, without any restrictions and whatever the circumstances may be, irrespective of nationality, domicile or residence of the relevant Holder and without certification, affidavit or the fulfilment of any other formality.

(b) The Issuer reserves the right to terminate the appointment of the Principal Paying Agent, as well as to appoint or, after any such appointment, to terminate the appointment of, one or more other paying agents to carry out any payment, calculation or other functions in respect of the Notes (each, a "**Paying Agent**", which term includes the Principal Paying Agent). Any such appointment or termination of appointment shall only take effect not more than 45 and not less than 30 days' after the Issuer has notified the Holders of such appointment or termination pursuant to Condition 12 (*Notices*); *provided*, *however*, that, in the case of insolvency of any Paying Agent, any termination of such Paying Agent and appointment of any other Paying Agent will take immediate effect. In addition, for so long as the Notes are listed on the SIX Swiss Exchange, the Issuer shall maintain a Paying Agent in Switzerland, which agent shall have an office in Switzerland and be a bank or securities dealer subject to supervision by FINMA, to perform the functions of a Swiss paying agent.

8. TAXATION

(a) All payments to be made by or on behalf of the Issuer in respect of the Notes (including, for the avoidance of doubt, payments by a Paying Agent) shall be made without withholding or deduction for, or on account of, any present or future taxes, duties, assessments or other government charges of any nature ("**Taxes**") imposed, levied, collected, withheld or assessed by or on behalf of any Tax Jurisdiction or any political subdivision thereof or any authority of or in a Tax Jurisdiction or any political subdivision thereof having the power to impose, levy, collect, withhold or assess Taxes, unless withholding, deduction or accounting for such Taxes is required by law.

(b) In the event that any payment to be made by or on behalf of the Issuer in respect of the Notes (including, for the avoidance of doubt, payments by a Paying Agent) is subject to any withholding or deduction for, or on account of, any Taxes by requirement of law in a Tax Jurisdiction (as determined by the relevant tax authority of or in such Tax Jurisdiction), the Issuer shall pay such additional amounts as will result in the Holders receiving the amounts that they would have received in respect of the Notes if no such withholding or deduction had been required ("**Additional Amounts**").

(c) No Additional Amounts will be payable pursuant to clause (b) of this Condition 8 in relation to any Note:

(i) if the relevant Holder is liable for such Taxes on such Note as a result of having some connection with the relevant Tax Jurisdiction other than its mere ownership or possession of such Note or the receipt of principal or interest in respect thereof; or

(ii) with respect to any Tax collected pursuant to the provisions of, or any laws or an agreement with any Tax Jurisdiction relating to, Sections 1471 through 1474 of the US Internal Revenue Code (commonly referred to as "FATCA"); or

(iii) where such withholding or deduction is required to be made pursuant to laws enacted by Switzerland providing for the taxation of payments according to principles similar to those laid down in the draft legislation of the Swiss Federal Council of 17 December 2014, or otherwise changing the Swiss federal withholding tax system from an issuer-based system to a paying agent-based system pursuant to which a person other than the issuer is required to withhold tax on any interest payments; or

(iv) to the extent any combination of subclauses (i) through (iii) of this clause (c) applies.

(d) Any reference in these Terms and Conditions to amounts payable by the Issuer in respect of the Notes includes (i) any Additional Amount payable pursuant to this Condition 8 and
(ii) any sum payable pursuant to an obligation taken in addition to or in substitution for the obligation in this Condition 8.

9. STATUTE OF LIMITATIONS

In accordance with Swiss law, (a) claims for interest payments under the Notes will become time- barred after the five-year period and (b) claims for the repayment or redemption of Notes will become time-barred after the ten-year period, in each case, commencing on the date on which such payments, repayment or redemption become due and payable.

10. EVENTS OF DEFAULT

(a) If any of the following events occurs, such occurrence will constitute an "**Event of Default**":

(i) the Issuer fails to pay the principal amount of any Note if and when the same becomes due and payable under these Terms and Conditions, and such failure continues unremedied for a period of 30 days; or

(ii) the Issuer fails to pay any interest on the Notes if and when the same becomes due and payable under these Terms and Conditions, and such failure continues unremedied for a period of 30 days; or

(iii) the Issuer fails to observe or perform any other covenant, condition, or agreement contained in these Terms and Conditions, and such failure continues unremedied for a period of 60 days after written notice thereof from any Holder to the Issuer; or

(iv) a Bankruptcy Event.

(b) Upon the occurrence of an Event of Default relating to any failure of the Issuer to meet any payment obligation under these Terms and Conditions and subject to Condition 6 (*Contingent Write-down*), (i) such payment obligation (and such payment obligation only) will be immediately deemed a due and payable (*fällige*) payment obligation of the Issuer, and (ii) if (A) the relevant Holder has formally requested payment of such payment obligation, (B) such payment obligation has not been fulfilled within the statutory period under Swiss law commencing after the date of such formal request and (C) a writ of payment (*Zahlungsbefehl*) has been issued with respect to such payment obligation pursuant to the DEBA, the relevant Holder may institute proceedings against the Issuer in Switzerland (but not elsewhere) to enforce its rights with respect to such payment obligation under the DEBA.

(c) If a debt collection or insolvency proceeding with respect to the Issuer is instituted in Switzerland in accordance with clause (b) of this Condition 10, the Issuer shall not (i) after having received the writ of payment (*Zahlungsbefehl*) relating to the relevant payment obligation, argue or plead that such payment obligation is not due and payable by the Issuer, or (ii) prior to the declaration of bankruptcy (or similar proceeding under Swiss insolvency laws), make any payment to the relevant Holder under or in connection with the Notes.

(d) In the case of any Event of Default arising under subclause (a)(iii) of this Condition 10 and subject to Condition 6 (*Contingent Write-down*), any Holder may seek specific performance or damages with respect to such Event of Default pursuant to the Swiss Code if so entitled thereunder. Any such damage claim of any Holder will rank junior to the rights and claims of all holders of Senior Obligations.

(e) In the case of any Event of Default arising under subclause (a)(iv) of this Condition 10 and subject to Condition 6 (*Contingent Write-down*), any Holder may, by written notice to the Issuer, declare the principal amount of any of its Notes, together with any accrued and unpaid interest thereon, immediately due and payable, without presentment, demand, protest or other notice of any kind.

(f) No remedy against the Issuer other than those described in this Condition 10 will be available to the Holders in connection with the Issuer's obligations under these Terms and Conditions, whether for the recovery of amounts owing under these Terms and Conditions or in respect of any breach by the Issuer of any of its other obligations under these Terms and Conditions or otherwise. In particular, no Holder may declare (i) the principal amount of any Notes due and payable prior to any Redemption Date, or (ii) any interest on any Notes due and payable prior to the relevant Interest Payment Date, except, in the case of each of subclauses (i) and (ii) of this clause (f), pursuant to clause (e) of this Condition 10.

11. SUBSTITUTION AND AMENDMENT

(a) If a Tax Event, a Regulatory Event or an Alignment Event has occurred, the Issuer may, without the consent of the Holders unless so required by mandatory provisions of Swiss law, either substitute all, but not some only, of the Notes for, or amend these Terms and Conditions so that they remain or become, Compliant Securities, *provided* that:

(i) neither a Tax Event nor a Regulatory Event arises as a result of such substitution or amendment;

(ii) the FINMA has approved such substitution or amendment (if such approval is then required under applicable Swiss laws and regulations);

(iii) the Issuer has given the Holders not less than 30 days' notice of such substitution or amendment in accordance with Condition 12 (*Notices*), which notice (the "**Substitution or Amendment Notice**") will, subject to subclause (a)(iv) of this Condition 11, be irrevocable, and state the date on which such substitution or amendment will be effective (the "**Substitution or Amendment Effective Date**");

(iv) prior to the publication of any notice pursuant to subclause (a)(iii) of this Condition 11, the Issuer shall deliver to the Principal Paying Agent (A) a certificate signed by two Authorised Signatories stating that the relevant requirement or circumstance giving rise to the right to substitute or amend the terms of the Notes, as applicable, pursuant to this clause (a) of this Condition 12 is satisfied and the reasons therefor and such certificate will be conclusive and binding on the Holders, and (B) an opinion of independent legal advisers of recognised standing to the effect that circumstances entitling the Issuer to exercise its right to substitute or amend the terms of the Notes, as applicable, pursuant to this clause (a) of this Condition 11 have arisen; and

(v) no Trigger Event or Viability Event has occurred prior to the relevant Effective Date.

In connection with any substitution or amendment in accordance with this clause (a) of this Condition 11, the Issuer shall comply with the rules of any stock exchange on which the Notes are for the time being listed or admitted to trading.

An "**Alignment Event**" will have occurred if, as a result of any change in National Regulations at any time after the Issue Date, any Relevant Swiss Issuer would be permitted to issue or guarantee (including, without limitation, by providing a guarantee, credit support agreement or similar undertaking), or has issued or guaranteed (including, without limitation, by providing a guarantee, credit support agreement or similar undertaking), a capital instrument that (i) is eligible in full to be (A) treated as Additional Tier 1 Capital and (B) counted towards either the Going-Concern LR Requirement or the Going-Concern RWA Requirement (or both), and (ii) has terms and conditions that (A) include a write- down feature, and (B) contain one or more provisions that are, in the reasonable opinion of UBS Group AG, different in any material respect from those in these Terms and Conditions, which provisions, if they had been included in these Terms and Conditions, would have prevented the Notes from being eligible in full to be treated as Additional Tier 1 Capital and/or to be counted towards either the Going-Concern LR Requirement or the Going-Concern RWA Requirement (or both) immediately prior to such change in National Regulations.

(b) In addition to its rights under clause (a) of this Condition 11, the Issuer may, without the consent of the Holders unless so required by mandatory provisions of Swiss law, make any amendment to these Terms and Conditions that it considers to be (i) necessary or desirable to give effect to (A) any Alternative Benchmark Rate determined in accordance with clause (c) of Condition 4 (*Interest*) (including any Adjustment Spread determined in accordance with subclause (v)(A)(2) thereof and any alternative method for determining the Reference Rate if such Alternative Benchmark Rate is unavailable on the relevant Reset Determination Date determined in accordance with subclause (v)(A)(3) thereof), or
(B) the provisions of clause (a) of Condition 13 (*Issuer Substitution*) (including, without limitation, (x) if the Substitute Issuer is organised and/or resident for tax purposes in a jurisdiction other than Switzerland, any amendments to any references to the jurisdiction of "Switzerland" contained herein, including, without limitation, amendments to the definition of the term "Bankruptcy Event", the definition of the term "Business Day", the governing law of the subordination provisions set forth in Condition 3 (*Status and Subordination*) and the provisions of Condition 10 (*Events of Default*), and (y) any amendments to reflect UBS Group AG's guarantee described in subclause (a)(iii) of Condition 13 (*Issuer Substitution*)), or (ii) formal, minor or technical in nature, or

(iii) necessary to correct a manifest error or (iv) not materially prejudicial to the interests of the Holders.

(c) The Issuer shall notify the Holders of any amendments made pursuant to clause (b) of this Condition 11 in accordance with Condition 12 (*Notices*), which notice shall state the date on which such amendment will be effective.

(d) Any amendment made pursuant to this Condition 11 will be binding on the Holders in accordance with its terms.

12. NOTICES

So long as the Notes are listed on the SIX Swiss Exchange, notices to Holders shall be given by the Issuer (a) by means of electronic publication on the internet website of the SIX Swiss Exchange (https://www.six-group.com/exchanges/index.html), where notices are currently published under the address https://www.six-group.com/exchanges/news/official_notices/search_en.html, or (b) otherwise in accordance with the regulations of the SIX Swiss Exchange. Any notice will be validly given on the date of such publication or, if published more than once, on the date of the first such publication.

If the Notes are for any reason no longer listed on the SIX Swiss Exchange, notices to Holders will be given by the Issuer to the Intermediary for forwarding to the Holders. Any such notice will be validly given on the date of delivery to the Intermediary.

13. ISSUER SUBSTITUTION

(a) The Issuer (for purposes of this Condition 13, the "**Current Issuer**") may, without the consent of the Holders, substitute any entity (whether or not such entity is organised under the laws of Switzerland) (such substitute entity, the "**Substitute Issuer**") for itself as principal debtor under the Notes upon giving no more than 30 and no less than 10 days' notice to the Holders in accordance with Condition 12 (*Notices*), *provided* that:

(i) the Substitute Issuer is UBS Group AG or at least 95 per cent. of the Substitute Issuer's capital and voting rights are held, directly or indirectly, by UBS Group AG;

(ii) the Current Issuer is not in default in respect of any amount payable under the Notes at the time of such substitution;

(iii) if the Substitute Issuer is not UBS Group AG, UBS Group AG has irrevocably and unconditionally guaranteed to the Holders, pursuant to article 111 of the Swiss Code and on a subordinated basis corresponding *mutatis mutandis* to Condition 3 (*Status and Subordination*), the due and punctual payment of principal and interest and all other amounts due and payable by the Substitute Issuer under, or in respect of, the Notes upon receipt of the written request for payment of the relevant amount, and on the terms whereby Condition 4(j)(iii) (*Interest*), Condition 8 (*Taxation*), Condition 10 (*Events of Default*) and Condition 16 (*No Set-off by Holders*) apply to UBS Group AG and to its obligations under such guarantee either by making the necessary consequential amendments to such Conditions or including such Conditions applicable to UBS Group AG and to its obligations under such guarantee in such guarantee itself, as applicable;

(iv) UBS Group AG, the Current Issuer and the Substitute Issuer (1) have entered into such documents (the "**Substitution Documents**") as are necessary to give effect to such substitution and pursuant to which the Substitute Issuer has (x) undertaken in favour of each Holder to be bound by these Terms and Conditions as the principal debtor (on a subordinated basis corresponding to Condition 3 (*Status and Subordination*)) under the Notes in place of the Current Issuer and (y) assumed the obligations of the Current Issuer under the Agency Agreement, and (2) procure that all action, conditions and things required to be taken, fulfilled and done (including, without limitation, the obtaining of any necessary consents) to ensure that the Substitution Documents represent valid, legally binding and enforceable obligations of the Substitute Issuer have been taken, fulfilled and done and are in full force and effect;

(v) if the Substitute Issuer is resident for tax purposes in a jurisdiction (the "**New Residence**") other than that in which the Current Issuer prior to such substitution was resident for tax purposes (the "**Former Residence**"), the Substitution Documents contain an undertaking by the Substitute Issuer and/or such other provisions as may be necessary to ensure that each Holder has the benefit of an undertaking in terms corresponding to the provisions of Condition 8 (*Taxation*) in relation to the payment of all amounts due and payable under, or in respect of, the Notes and in relation to the guarantee referred to in clause (iii) above, with, in the case of the Notes but not such guarantee, the substitution of references to the Former Residence with references to the New Residence, and an undertaking by the Substitute Issuer to indemnify each Holder against any Tax that is imposed on it by (or by any authority in or of) the New Residence and, if different, the jurisdiction of the Substitute Issuer's organisation with respect to any Note and that would not have been so imposed had the substitution not been made, as well as against any Tax, and any cost or expense, relating to such substitution;

(vi) if the Substitute Issuer is not UBS Group AG, the FINMA has approved such substitution (if such approval is then required under applicable Swiss laws and regulations), and the Current Issuer and the Substitute Issuer have obtained all other necessary governmental and other approvals and consents for such substitution and for the performance by the Substitute Issuer of its obligations under the Substitution Documents;

(vii) if the Substitute Issuer is not organised under the laws of Switzerland, the Substitute Issuer has appointed a process agent as its agent in Switzerland to receive service of process on its behalf in relation to any legal proceedings arising out of or in connection with the Notes;

(viii) the Substitute Issuer has appointed a Paying Agent in Switzerland that is a participant in the Intermediary; and

(ix) such substitution does not give rise to a Tax Event or a Regulatory Event.

(b) Upon any substitution pursuant to clause (a) of this Condition 13, (i) the Substitute Issuer will succeed to, and be substituted for, and may exercise every right and power of, the Current Issuer under the Notes with the same effect as if the Substitute Issuer had been named as Issuer in these Terms and Conditions, and (ii) the Current Issuer will be released from its obligations under the Notes.

(c) After giving effect to any substitution pursuant to clause (a) of this Condition 13, (i) references to the "Issuer" in the Notes and these Terms and Conditions will be references to the Substitute Issuer, and (ii) references to the "Tax Jurisdiction" in the Notes and these Terms and Conditions will be read and construed as including the jurisdiction of establishment of the Substitute Issuer and, if different, the jurisdiction in which the Substitute Issuer is resident for tax purposes instead of or in addition to (as the case may be) references to the jurisdiction of establishment of the Issuer and Switzerland.

14. FURTHER ISSUES

The Issuer may from time to time without the consent of the Holders issue further notes and, *provided* that such notes have the same terms and conditions as the Notes in all respects (or in all respects except for the issue date and/or first date on which interest is paid), such further notes will be consolidated and form a single series with the Notes. If the Issuer issues any such further notes pursuant to this Condition 14, references in these Terms and Conditions to "**Notes**" include such further notes, unless the context otherwise requires.

15. **CURRENCY INDEMNITY**

Any amount received or recovered by any Holder in a currency other than SGD (whether as a result of, or of the enforcement of, a judgment or order of a court of any jurisdiction, in the insolvency, winding-up or dissolution of the Issuer or otherwise) under the Notes will only constitute a discharge of the Issuer to the extent of the amount in SGD that such Holder is able to purchase with the amount so received or recovered in such other currency on the date of such receipt or recovery (or, if it is not practicable to purchase SGD with such amount on such date, on the first date on which it is practicable to do so). If the amount of SGD that such Holder is able to purchase is less than the amount owed by the Issuer to such Holder under the Notes, the Issuer shall indemnify such Holder against any loss sustained by it as a result. In addition, the Issuer shall indemnify such Holder for the costs of making such purchase. For purposes of this Condition 15, it is sufficient for the relevant Holder to demonstrate that it would have suffered a loss had an actual purchase been made. The indemnities under this Condition 15 will (a) constitute a separate and independent obligation from the Issuer's other obligations hereunder, (b) give rise to a separate and independent cause of action, (c) apply irrespective of any indulgence granted by any Holder and (d) continue in full force and effect despite any other judgment, order, claim or proof for a liquidated amount in respect of any amount due under the Notes or any other judgment or order.

16. **NO SET-OFF BY HOLDERS**

Subject to applicable law, each Holder, by acceptance of any direct or beneficial interest in a Note, agrees that it will not, and waives its right to, exercise, claim or plead any right of set-off, compensation or retention with respect to any amount owed to it by the Issuer in respect of, or arising in connection with, the Notes.

17. **NO CONVERSION**

Notwithstanding the powers of the FINMA under articles 25 *et seq.* of the FBA or pursuant to any successor or analogous Swiss law or regulation applicable to bank holding companies in Switzerland such as UBS Group AG, the Notes shall under no circumstances be converted into equity of the Issuer, and shall only absorb losses pursuant to these Terms and Conditions.

18. **GOVERNING LAW AND JURISDICTION**

(a) The Notes shall be governed by and construed in accordance with the laws of Switzerland.

(b) The courts of the Canton of Zurich (venue being the City of Zurich) shall have exclusive jurisdiction to settle any disputes that may arise out of or in connection with the Notes.

Exhibit 4.19

High-trigger loss-absorbing additional tier 1 capital instrument

Issuer	UBS Group AG
ISIN	CH0506668869
Issue Date	13.11.2019
Currency	CHF
Nominal (million)	275.0
Interest Rate	3.00% [1]
Maturity Date	perpetual
First Call Date	13.11.2025

[1] Rate subject to change after first call date.

TERMS AND CONDITIONS OF THE NOTES

The terms and conditions of the Tier 1 Capital Notes issued by UBS Group AG are as follows:

1. DEFINITIONS

"**Additional Amounts**" has the meaning assigned to such term in clause (b) of Condition 8 (*Taxation*).

"**Additional Tier 1 Capital**" means, at any time, any item that qualifies as additional tier 1 capital (*zusätzliches Kernkapital*) under National Regulations at such time.

"**Adjustment Spread**" means, with respect to any Alternative Benchmark Rate determined in accordance with the provisions of clause (c) of Condition 4 (*Interest*), a spread (which may be positive or negative), or a formula or methodology for calculating such a spread, applied to such Alternative Benchmark Rate in order to reduce or eliminate, to the extent reasonably practicable in the circumstances, any economic prejudice or benefit (as applicable) to Holders as a result of the replacement of the Existing Benchmark Rate with such Alternative Benchmark Rate.

"**Affected Reset Interest Period**" has the meaning assigned to such term in subclause (c)(i) of Condition 4 (*Interest*).

"**Agency Agreement**" means the Agency Agreement dated as of the Issue Date, among the Issuer, the Principal Paying Agent, the Calculation Agent and the other agents from time to time party thereto, as amended, supplemented or otherwise modified from time to time.

"**Alignment Event**" has the meaning assigned to such term in clause (a) of Condition 11 (*Substitution and Amendment*).

"**Alternative Benchmark Rate**" has the meaning assigned to such term in subclause (c)(i) of Condition 4 (*Interest*).

"**Alternative Loss Absorption Date**" has the meaning assigned to such term in clause (f) of Condition 6 (*Contingent Write-down*).

"**Alternative Relevant Page**" has the meaning assigned to such term in clause (c)(v)(A) of Condition 4 (*Interest*).

"**Alternative Relevant Time**" has the meaning assigned to such term in clause (c)(v)(A) of Condition 4 (*Interest*).

"**Auditor**" means the accounting firm (i) appointed by the Board of Directors of the Group Holding Company or the shareholders of the Group Holding Company, as the case may be, to provide, among other things, audit and/or review opinions on the Group Holding Company's financial statements, and (ii) approved by the FINMA in accordance with the Financial Market Supervisory Act (*Finanzmarktaufsichtsgesetz*) of 22 June 2007, as amended from time to time.

"**Authorised Signatories**" means any two authorised officers of the Issuer signing jointly.

"**Balance Sheet Date**" means (i) with respect to any Ordinary Publication Date, the cut-off date for the measurement of the CET1 Ratio in the Quarterly Financial Accounts published on such Ordinary Publication Date, and (ii) with respect to any Extraordinary Publication Date, the cut-off date for the Reviewed Interim Measurement published upon the instruction of the FINMA on such Extraordinary Publication Date.

"**Bankruptcy Event**" means any of the following events with respect to the Issuer: (i) the adjudication of bankruptcy (*Konkurseröffnung*) pursuant to articles 171, 189, 190, 191 or 192 of the DEBA, including, without limitation, in connection with article 725a of the Swiss Code, (ii) the granting of a provisional or definitive stay of execution (*provisorische oder definitive Nachlassstundung*) pursuant to article 293 et seq. of the DEBA, (iii) the ordering of restructuring proceedings (*Sanierungsverfahren*) pursuant to articles 28 to 32 of the FBA or pursuant to any successor or analogous Swiss law or regulation applicable to bank holding companies in

Switzerland such as UBS Group AG, and/or (iv) the ordering of liquidation proceedings (*Liquidation*) pursuant to articles 33 to 37g of the FBA or pursuant to any successor or analogous Swiss law or regulation applicable to bank holding companies in Switzerland such as UBS Group AG; *provided*, *however*, that none of the following will constitute a Bankruptcy Event:
(x) mere debt collection proceedings (*Betreibungsverfahren*) pursuant to article 38 *et seq.* of the DEBA, (y) proceedings in connection with a freezing order (*Arrestverfahren*) pursuant to article 271 *et seq.* of the DEBA, and/or (z) the institution of protective measures (*Schutzmassnahmen*) pursuant to article 26 of the FBA or pursuant to any successor or analogous Swiss law or regulation applicable to bank holding companies in Switzerland such as UBS Group AG, including, in the case of each of subclauses (x), (y) and (z), any steps (other than any steps described in clauses (i) through (iv) of this definition) taken under or in connection therewith.

"**BIS Regulations**" means, at any time, the capital adequacy standards and guidelines promulgated by the Basel Committee on Banking Supervision, as implemented by the FINMA in Switzerland at such time.

"**BIS Risk Weighted Assets**" means, as of any Balance Sheet Date, the aggregate amount, in the Presentation Currency, of risk-weighted assets of the Group as of such Balance Sheet Date, as determined by the Group Holding Company pursuant to the BIS Regulations applicable to the Group Holding Company as of such Balance Sheet Date, and as (i) disclosed in the Quarterly Financial Accounts published on the relevant Ordinary Publication Date or (ii) may be disclosed as a component of the Reviewed Interim Measurement published upon the instruction of the FINMA on the relevant Extraordinary Publication Date, as applicable. For the avoidance doubt, the term "**risk-weighted assets**" as used in this definition has the meaning assigned to such term in the BIS Regulations in effect as of the relevant Balance Sheet Date.

"**Business Day**" means a day (other than a Saturday or a Sunday) on which commercial banks and foreign exchange markets settle payments and are open for general business (including, without limitation, dealing in foreign exchange and foreign currency deposits) in Zurich.

"**Calculation Agent**" means UBS AG, in its capacity as calculation agent for the Notes, and includes any successor Calculation Agent appointed in accordance with the terms of the Agency Agreement.

"**Calculation Amount**" means CHF 200,000.

"**Calculation Period**" means the relevant period for which interest is to be calculated from (and including) the first day in such period to (but excluding) the last day in such period.

"**Capital Adequacy Ordinance**" means the Ordinance concerning Capital Adequacy and Risk Diversification for Banks and Securities Dealers, which entered into force on 1 January 2013, and as amended from time to time, or any successor Swiss law or regulation.

"**CET1 Capital**" means, as of any Balance Sheet Date, the aggregate amount, in the Presentation Currency, of items that constitute common equity tier 1 capital of the Group as of such Balance Sheet Date, less any deductions from common equity tier 1 capital required to be made, in each case as determined by the Group Holding Company pursuant to the BIS Regulations applicable to the Group Holding Company as of such Balance Sheet Date, and as (i) disclosed in the Quarterly Financial Accounts published on the relevant Ordinary Publication Date or (ii) may be disclosed as a component of the Reviewed Interim Measurement published upon the instruction of the FINMA on the relevant Extraordinary Publication Date, as applicable. For the avoidance of doubt, the term "**common equity tier 1 capital**" as used in this definition has the meaning assigned to such term in the BIS Regulations in effect as of the relevant Balance Sheet Date.

"**CET1 Ratio**" means, as of any Balance Sheet Date, the CET1 Capital as of such Balance Sheet Date, divided by the BIS Risk Weighted Assets as of such Balance Sheet Date, expressed as a percentage, such ratio (or the components thereof) as determined by the Group Holding Company, and (i) as disclosed in the Quarterly Financial Accounts published on the relevant Ordinary Publication Date or (ii) constituting (or as disclosed in) the Reviewed Interim Measurement published upon the instruction of the FINMA on the relevant Extraordinary Publication Date, as applicable.

"**CHF**" means Swiss francs.

"**Compliant Securities**" means securities issued by UBS Group AG or any of its subsidiaries that have economic terms not materially less favourable to a Holder than these Terms and Conditions (as reasonably determined by the Issuer), provided that

(a) such securities (A) include terms that provide for the same interest rate and principal from time to time applying to the Notes, (B) rank *pari passu* with the Notes and (C) preserve any existing rights under these Terms and Conditions to any accrued and unpaid interest that has not been satisfied;

(b) where such securities are issued by a subsidiary of UBS Group AG, UBS Group AG has irrevocably and unconditionally guaranteed to the holders of the relevant securities, on a subordinated basis corresponding *mutatis mutandis* to Condition 3 (*Status and Subordination*), the due and punctual payment of all amounts due and payable by such subsidiary under, or in respect of, such securities pursuant to article 111 of the Swiss Code;

(c) where the Notes that have been substituted or amended were listed immediately prior to their substitution or amendment, the relevant securities are listed on (A) the SIX Swiss Exchange or (B) such other internationally recognised stock exchange selected by the Issuer; and

(d) where the Notes that have been substituted or amended were rated by a rating agency immediately prior to such substitution or amendment, each such rating agency has ascribed, or announced its intention to ascribe and publish, an equal or higher rating to the relevant securities.

"**Contingent Write-down**" means the events described in subclauses (i) through (iii) of clause (d) of Condition 6 (*Contingent Write-down*).

"**Day Count Fraction**" means, in respect of any period, the number of days in the relevant period divided by 360 calculated on a formula basis as follows:

$$\frac{[360x(Y_2 - Y_1)] + [30x(M_2 - M_1)] + (D_2 - D_1)}{360}$$

Day Count Fraction =

where:

"**Y1**" is the year, expressed as a number, in which the first day of the Calculation Period falls;

"**Y2**" is the year, expressed as a number, in which the day immediately following the last day included in the Calculation Period falls;

"**M1**" is the calendar month, expressed as a number, in which the first day of the Calculation Period falls;

"**M2**" is the calendar month, expressed as number, in which the day immediately following the last day included in the Calculation Period falls;

"**D1**" is the first calendar day, expressed as a number, of the Calculation Period, unless such number would be 31, in which case D1 will be 30; and

"**D2**" is the calendar day, expressed as a number, immediately following the last day included in the Calculation Period, unless such number would be 31 and D1 is greater than 29, in which case D2 will be 30.

"**DEBA**" means the Swiss Federal Debt Enforcement and Bankruptcy Act of 11 April 1889, as amended from time to time.

"**Distributable Items**" means, in respect of an Interest Payment Date, the aggregate of (i) net profits carried forward and (ii) freely distributable reserves, in each case, less any amounts that must be contributed to legal reserves under applicable law, all in UBS Group AG's reporting currency and as appearing in the Relevant Accounts.

"**Event of Default**" has the meaning assigned to such term in clause (a) of Condition 10 (*Events of Default*).

"**Existing Benchmark Rate**" has the meaning assigned to such term in clause (c) of Condition 4 (*Interest*).

"**Extraordinary Publication Date**" means the Business Day on which a Reviewed Interim Measurement is published upon the instruction of the FINMA, after the FINMA has determined that the conditions for issuing a Trigger Event Write-down Notice in accordance with Condition 6 (*Contingent Write-down*) have been met.

"**Extraordinary Trigger Event Notice Date**" has the meaning assigned to such term in subclause (b)(i) of Condition 6 (*Contingent Write-down*).

"**FBA**" means the Swiss Federal Act on Banks and Savings Institutions of 8 November 1934, as amended from time to time.

"**FINMA**" means the Swiss Financial Market Supervisory Authority FINMA and any successor thereto.

"**First Call Date**" means 13 November 2025.

"**Fixed Interest Rate**" means 3.00 per cent. per annum.

"**Former Residence**" has the meaning assigned to such term in subclause (a)(v) of Condition 13 (*Issuer Substitution*).

"**Going-Concern LR Requirement**" means a requirement under National Regulations for systemically relevant banks (*systemrelevante Banken*) to hold a minimum amount of going-concern capital (*Eigenmittel zur ordentlichen Weiterführung der Bank*), which amount is set by reference to the leverage ratio (*Höchstverschuldungsquote*) of such bank.

"**Going-Concern RWA Requirement**" means a requirement under National Regulations for systemically relevant banks (*systemrelevante Banken*) to hold a minimum amount of going- concern capital (*Eigenmittel zur ordentlichen Weiterführung der Bank*), which amount is set by reference to the risk weighted assets (*risikogewichtete Positionen*) of such bank.

"**Group**" means, at any time, the Group Holding Company and all its subsidiaries and other entities that are included in the Group Holding Company's consolidated capital adequacy reports prepared pursuant to National Regulations.

"**Group Holding Company**" means, at any time, the top Swiss holding company at such time of the financial group to which UBS Group AG belongs for purposes of preparing consolidated capital adequacy reports pursuant to National Regulations. As at the Issue Date, the Group Holding Company is UBS Group AG.

"**Higher-Trigger Amount**" means, as of any Publication Date, the sum of (i) the maximum portion of the aggregate principal amount, in the Presentation Currency of the Quarterly Financial Accounts or Reviewed Interim Measurement, as the case may be, to which such Publication Date relates, of all Higher-Trigger Contingent Capital, if any, outstanding on the relevant Balance Sheet Date that could be converted into equity and/or fully or partially written down, or otherwise operate to increase the CET1 Capital, if a Higher-Trigger Write-down/Conversion Notice were delivered in accordance with the terms thereof, and (ii) the maximum portion of the aggregate principal amount, in the Presentation Currency of the Quarterly Financial Accounts or Reviewed Interim Measurement, as the case may be, to which such Publication Date relates, of all Higher-Trigger Contingent Capital, if any, issued after the relevant Balance Sheet Date, but prior to such Publication Date, that could be converted into equity and/or fully or partially written down, or otherwise operate to increase the CET1 Capital, if a Higher-Trigger Write-down/Conversion Notice were delivered in accordance with the terms thereof, in the case of each of clauses (i) and (ii), as determined by UBS Group AG. For purposes of clause (ii) of this definition and, in the case of an Extraordinary Publication Date, clause (i) of this definition, the aggregate principal amount of any Higher-Trigger Contingent Capital that is not denominated in the Presentation Currency will be converted into the Presentation Currency at the applicable prevailing exchange rate on the last Business Day preceding the relevant Publication Date, as determined by UBS Group AG. In the case of an Ordinary Publication Date, for purposes of clause (i) of this definition, the aggregate principal amount of any Higher-Trigger Contingent Capital that is not denominated in the Presentation Currency will be converted into the Presentation Currency at the applicable exchange rate used for such purposes in the relevant Quarterly Financial Accounts.

"**Higher-Trigger Contingent Capital**" means any instrument issued by, or any other obligation of, any member of the Group that (i) is issued or owed to holders that are not members of the Group and (ii) is required pursuant to its terms to be converted into equity and/or fully or partially written down, or otherwise operating to increase the CET1 Capital, when the CET1 Ratio (or equivalent capital measure of the Group described in the terms and conditions thereof) falls below a threshold that is higher than the Write-down Threshold (with respect to the relevant Higher-Trigger Contingent Capital, its "**Higher-Trigger Threshold**").

"**Higher-Trigger Threshold**" has the meaning assigned to such term in the definition of the term "**Higher-Trigger Contingent Capital**".

"**Higher-Trigger Write-down/Conversion Date**" has the meaning assigned to such term in the definition of the term "Higher-Trigger Write-down/Conversion Notice".

"**Higher-Trigger Write-down/Conversion Notice**" means a notice delivered pursuant to the terms of any Higher-Trigger Contingent Capital that notifies the holders thereof that the CET1 Ratio (or similar measure or other event described in the terms and conditions of such Higher-Trigger Contingent Capital) has fallen below its Higher-Trigger Threshold and, consequently, that such Higher-Trigger Contingent Capital will be converted into equity and/or fully or partially written down, or otherwise operate to increase the CET1 Capital, as applicable, as of a particular date (such date, the "**Higher-Trigger Write-down/Conversion Date**"). For the avoidance of doubt, if the terms and conditions of such Higher-Trigger Contingent Capital permit the FINMA to waive the conversion into equity and/or write-down of such Higher-Trigger Contingent Capital notwithstanding the fact that the CET1 Ratio (or similar measure or other event described in the terms and conditions of such Higher-Trigger Contingent Capital) has fallen below the Higher-Trigger Threshold, the non-issuance of such a waiver by the FINMA between the relevant Publication Date and the Trigger Event Notice Date shall be deemed equivalent to the delivery of a Higher-Trigger Write-down/Conversion Notice for purposes of subclause (b)(ii) of Condition 6 (*Contingent Write-down*).

"**Holder**" means, with respect to any Note, the person or persons holding such Note in a securities account (*Effektenkonto*) that is in its or their name, or, in the case of intermediaries (*Verwahrungsstellen*), the intermediary or intermediaries holding the Notes for its or their own account in a securities account (*Effektenkonto*) that is in its or their name.

"**Independent Adviser**" means an independent financial institution of international repute or other independent financial adviser experienced in the international capital markets, in each case, appointed by the Issuer at its own expense.

"**Independent Adviser Determination Cut-off Date**" has the meaning assigned to such term in subclause (c)(i) of Condition 4 (*Interest*).

"**Interest Payment Date**" has the meaning assigned to such term in subclause (a)(ii) of Condition 4 (*Interest*).

"**Interest Period**" means each period beginning on (and including) an Interest Payment Date (or, in the case of the first Interest Period, the Issue Date) and ending on (but excluding) the next Interest Payment Date.

"**Interest Rate**" means the Fixed Interest Rate and/or Reset Interest Rate, as the case may be.

"**Intermediary**" has the meaning assigned to such term in clause (b) of Condition 2 (*Amount and Denomination; Form and Transfer*).

"**Intermediated Securities**" has the meaning assigned to such term in clause (b) of Condition 2 (*Amount and Denomination; Form and Transfer*).

"**Issue Date**" means 13 November 2019.

"**Issuer**" means UBS Group AG in its capacity as issuer of the Notes.

"**Junior Obligations**" means (i) all classes of share capital and participation securities (if any) of the Issuer and (ii) all other obligations of the Issuer that rank, or are expressed to rank, junior to claims in respect of the Notes and/or any Parity Obligation.

"**Margin**" means 3.4375 per cent. per annum.

"**Mid Market Swap Rate**" means, in relation to a Reset Interest Period and the Reset Determination Date in relation to such Reset Interest Period:

(a) the annual-mid rate for Swiss franc swaps with a term of five years that appears on the Relevant Page as of the Relevant Time on such Reset Determination Date; or

(b) if such rate does not appear on the Relevant Page at the Relevant Time on such Reset Determination Date, the Reset Reference Bank Rate on such Reset Determination Date.

"**Mid Market Swap Rate Quotations**" means the arithmetic mean of the bid and offered rates for the annual fixed leg (calculated on a 30/360 day count basis) of a fixed-for-floating Swiss franc interest rate swap transaction that:

(a) has a term of five years commencing on the relevant Reset Date; and

(b) is in an amount that is representative for a single transaction in the relevant market at the relevant time with an acknowledged dealer of good credit in the swap market; and

(c) has a floating leg based on 3-month CHF LIBOR (calculated on the day count basis customary for floating rate payments in Swiss francs).

"**National Regulations**" means, at any time, (i) the Swiss national banking and capital adequacy laws, and (ii) the capital adequacy regulations promulgated by the Swiss Federal Council (*Bundesrat*) or the FINMA and the interpretation thereof by the FINMA or any other competent Swiss authority, in the case of each of clauses (i) and (ii), directly applicable to UBS Group AG (and/or, if different, the Group Holding Company) and/or the Group at such time.

"**New Residence**" has the meaning assigned to such term in subclause (a)(i)(E) of Condition 13 (*Issuer Substitution*).

"**Notes**" means the CHF 275,000,000 3.00 per cent. Tier 1 Capital Notes issued by the Issuer on the Issue Date.

"**Ordinary Publication Date**" means each Business Day on which Quarterly Financial Accounts are published.

"**Ordinary Shares**" means the registered ordinary shares of UBS Group AG.

"**Ordinary Trigger Event Notice Date**" has the meaning assigned to such term in subclause (b)(i) of Condition 6 (*Contingent Write-down*).

"**Parity Obligations**" means (i) all obligations of the Issuer in respect of Tier 1 Instruments (excluding any such obligations that rank, or are expressed to rank, junior to claims in respect of the Notes), and (ii) any other securities or obligations (including, without limitation, any guarantee, credit support agreement or similar undertaking) of the Issuer that rank, or are expressed to rank, *pari passu* with claims in respect of the Notes and/or any Parity Obligation.

"**Paying Agent**" has the meaning assigned to such term in clause (b) of Condition 7

(*Payments*). "**Permitted Transactions**" means:

(a) repurchases, redemptions or other acquisitions of any Ordinary Shares in connection with (x) any employment contract, benefit plan or similar arrangement with, or for the benefit of, any employees, officers, directors or consultants of any member of the Group, (y) a dividend reinvestment or shareholder share purchase plan or (z) the issuance of any Ordinary Shares (or securities convertible into, or exercisable for, Ordinary Shares) as consideration for an acquisition consummated by any member of the Group;

(b) market-making in Ordinary Shares as part of the securities business of any member of the Group;

(c) purchases of fractional interests in any Ordinary Shares pursuant to the conversion or exchange provisions of (x) such Ordinary Shares or (y) any security convertible into, or exercisable for, Ordinary Shares;

(d) redemptions or repurchases of Ordinary Shares pursuant to any shareholders' rights plan; and

(e) distributions in cash or in kind on, or repurchases, redemptions or other acquisitions of, any Ordinary Shares as a part of any solvent reorganisation, reconstruction, amalgamation or merger of any member of the Group, so long as such member (or the successor entity resulting from such reorganisation, reconstruction, amalgamation or merger) continues to be a member of the Group.

"**Presentation Currency**" means (i) with respect to any Quarterly Financial Accounts, the presentation currency of such Quarterly Financial Accounts, and (ii) with respect to any Reviewed Interim Measurement, the Presentation Currency of the Quarterly Financial Accounts that will be prepared for the relevant financial quarterly or annual period in which the relevant Extraordinary Publication Date falls.

"**Principal Paying Agent**" means UBS AG, in its capacity as principal paying agent for the Notes, and includes any successor Principal Paying Agent appointed in accordance with the terms of the Agency Agreement.

"**Public Sector**" means the government of, or a governmental agency or the central bank in, the country of incorporation of the Group Holding Company.

"**Publication Date**" means an Ordinary Publication Date or an Extraordinary Publication Date, as the case may be.

"**Quarterly Financial Accounts**" means (i) the financial statements of the Group (including, without limitation, the notes thereto) in respect of a financial quarter published by the Group Holding Company, which have been reviewed by the Auditor in accordance with the International Standards on Auditing; *provided, however*, that, if the financial statements of the Group in respect of the last quarter of any year are not so reviewed, the term "Quarterly Financial Accounts" in respect of such quarter will mean instead the annual financial statements of the Group (including, without limitation, the notes thereto) in respect of such year, which have been audited by the Auditor in accordance with the International Standards on Auditing and are published in the annual report of the Group Holding Company for such year, or (ii) in the event that the Group does not publish quarterly financial statements as described in clause (i) of this definition, the financial disclosures published by the Group pursuant to and in compliance with FINMA Circular 2016/01 "Capital Adequacy Disclosures Banks", as amended from time to time, or pursuant to and in compliance with any successor circular or regulation applicable to the Group Holding Company, *provided* that such financial disclosures are published for each financial quarter and the interim earnings included in such disclosures have been reviewed by the Auditor in accordance with International Standards on Auditing.

"**Redemption Date**" has the meaning assigned to such term in subclause (e)(i) of Condition 5 (*Redemption and Purchase*).

"**Redemption Notice**" has the meaning assigned to such term in subclause (e)(i) of Condition 5 (*Redemption and Purchase*).

"**Regulatory Event**" has the meaning assigned to such term in subclause (d)(ii) of Condition 5 (*Redemption and Purchase*).

"**Relevant Accounts**" means, in respect of any Interest Payment Date, the most recently published audited unconsolidated annual financial statements of UBS Group AG prepared in accordance with the Swiss Code.

"**Relevant Date**" means, with respect to any payment, (i) the date on which such payment first becomes due under the Notes (the "**Scheduled Due Date**"), or (ii) if the full amount of the money payable on the Scheduled Due Date has not been received by the Principal Paying Agent on or before the Scheduled Due Date, the date on which the full amount of the money due on the Scheduled Due Date has been received by the Principal Paying Agent.

"**Relevant Page**" means the GOTTEX page "CHF LCH – CHF Main Page" (or (i) such other page as may replace that page on GOTTEX, or (ii) such other page on such other information service that may replace GOTTEX, in each case, as may be nominated by the person providing or sponsoring the information appearing there for the purpose of displaying rates comparable to the Mid Market Swap Rate).

"**Relevant Time**" means 11:00am. (London time).

"**Relevant Swiss Issuer**" means, at any time, any bank, or any member of a banking group (including, without limitation, the Group), that is subject to a Going-Concern LR Requirement and a Going-Concern RWA Requirement at such time.

"**Reset Date**" means the First Call Date and each day that falls on the fifth anniversary of the immediately preceding Reset Date.

"**Reset Determination Date**" means, in relation to a Reset Interest Period, the day falling two Business Days prior to the Reset Date on which such Reset Interest Period commences.

"**Reset Interest Amount**" has the meaning assigned to such term in clause (b) of Condition 4 (*Interest*).

"**Reset Interest Period**" means each period from (and including) any Reset Date and ending on (but excluding) the next Reset Date.

"**Reset Interest Rate**" means, in relation to any Reset Interest Period, the sum of the Margin and the Mid Market Swap Rate in relation to such Reset Interest Period.

"**Reset Reference Bank Rate**" means, in relation to a Reset Interest Period and the Reset Determination Date in relation to such Reset Interest Period, the percentage rate determined by the Calculation Agent on the basis of the Mid Market Swap Rate Quotations provided by the Reset Reference Banks to the Calculation Agent at approximately the Relevant Time on such Reset Determination Date. If at least three quotations are provided, the Reset Reference Bank Rate will be the arithmetic mean of the quotations provided, eliminating the highest quotation (or, in the event of equality, one of the highest) and the lowest quotation (or, in the event of equality, one of the lowest). If only two quotations are provided, the Reset Reference Bank Rate will be the arithmetic mean of the quotations provided. If only one quotation is provided, the Reset Reference Bank Rate will be the quotation provided. If no quotations are provided, the Reset Reference Bank Rate for the relevant Reset Interest Period will be (i) in the case of each Reset Interest Period other than the Reset Interest Period commencing on the First Call Date, the Mid Market Swap Rate in respect of the immediately preceding Reset Interest Period, or (ii) in the case of the Reset Interest Period commencing on the First Call Date, 0.2490 per cent. per annum.

"**Reset Reference Banks**" means five major banks in the swap, money, securities or other market most closely connected with the Mid Market Swap Rate, as selected by the Issuer after consultation with the Calculation Agent.

"**Reviewed Interim Measurement**" means an interim measurement of the CET1 Ratio, with respect to which the Auditor has performed procedures in accordance with the International Standard on Related Services (and relevant Swiss standards and practices) applicable to agreed- upon procedures engagements.

"**Scheduled Due Date**" has the meaning assigned to such term in the definition of the term "Relevant Date".

"**Senior Obligations**" means all obligations of the Issuer that are unsubordinated or that are subordinated and do not constitute either Junior Obligations or Parity Obligations.

"**Substitute Issuer**" has the meaning assigned to such term in subclause (a) of Condition 13 (*Issuer Substitution*).

"**Substitution Documents**" has the meaning assigned to such term in subclause (a)(iv) of Condition 13 (*Issuer Substitution*).

"**Substitution or Amendment Effective Date**" has the meaning assigned to such term in subclause (a)(iii) of Condition 11 (*Substitution and Amendment*).

"**Substitution or Amendment Notice**" has the meaning assigned to such term in subclause (a)(iii) of Condition 11 (*Substitution and Amendment*).

"**Swiss Code**" means the Swiss Code of Obligations, as amended from time to time.

"**Tax Event**" has the meaning assigned to such term in subclause (c)(ii) of Condition 5 (*Redemption and Purchase*).

"**Tax Jurisdiction**" means Switzerland.

"**Taxes**" has the meaning assigned to such term in clause (a) of Condition 8 (*Taxation*).

"**Tier 1 Capital**" means Additional Tier 1 Capital or any item that qualifies as common equity tier 1 capital pursuant to National Regulations.

"**Tier 1 Instruments**" means any and all (i) securities or other obligations (other than Tier 1 Shares) issued by UBS Group AG or (ii) shares, securities, participation securities or other obligations (other than Tier 1 Shares) issued by a subsidiary of UBS Group AG and having the benefit of a guarantee, credit support agreement or similar undertaking of UBS Group AG, each of which shares, securities, participation securities or other obligations described in clauses (i) and
(ii) of this definition qualify, or are issued in respect of a security that qualifies, as Tier 1 Capital of the Group and/or UBS Group AG (without regard to quantitative limits on such capital) on a consolidated (*Finanzgruppe*) or on an unconsolidated (*Einzelinstitut*) basis.

"**Tier 1 Shares**" means all classes of share capital and participation certificates (if any) of UBS Group AG or any subsidiary of UBS Group AG that qualify as common equity tier 1 capital of the Group and/or UBS Group AG under National Regulations on a consolidated (*Finanzgruppe*) or on an unconsolidated (*Einzelinstitut*) basis.

"**Trigger Breach Determination Date**" has the meaning assigned to such term in subclause (b)(i) of Condition 6 (*Contingent Write-down*).

"**Trigger CET1 Ratio**" means, as of any Publication Date, (i) the sum of (x) the CET1 Capital as of the relevant Balance Sheet Date and (y) the Higher-Trigger Amount as of such Publication Date, divided by (ii) the BIS Risk Weighted Assets as of the relevant Balance Sheet Date, expressedas a percentage.

"**Trigger Event**" has the meaning assigned to such term in subclause (a)(ii) of Condition 6 (*Contingent Write-down*).

"**Trigger Event Notice Date**" means an Ordinary Trigger Event Notice Date or an Extraordinary Trigger Event Notice Date, as the case may be.

"**Trigger Event Write-down Date**" has the meaning assigned to such term in the definition of the term "**Trigger Event Write-down Notice**".

"**Trigger Event Write-down Notice**" means, with respect to any Publication Date, a notice (i) stating that (x) the Trigger CET1 Ratio as of such Publication Date is less than the Write-down Threshold, and (y) a Contingent Write-down will take place and (ii) specifying the date on which the Contingent Write-down will take place, which date shall, subject to postponement pursuant to subclause (b)(ii) of Condition 6 (*Contingent Write-down*), be no later than ten Business Days after the date of such notice (the "**Trigger Event Write-down Date**").

"**Viability Event**" has the meaning assigned to such term in subclause (c)(ii) of Condition 6 (*Contingent Write-down*).

"**Viability Event Write-down Date**" has the meaning assigned to such term in subclause (c)(i) of Condition 6 (*Contingent Write-down*).

"**Viability Event Write-down Notice**" has the meaning assigned to such term in subclause (c)(ii) of Condition 6 (*Contingent Write-down*).

"**Write-down Date**" means, with respect to any Contingent Write-down, the Trigger Event Write- down Date or Viability Event Write-down Date, as applicable.

"**Write-down Notice**" means, with respect to any Contingent Write-down, the relevant Trigger Event Write-down Notice or Viability Event Write-down Notice, as applicable.

"**Write-down Notice Date**" means, with respect to any Contingent Write-down, the date of the relevant Write-down Notice.

"**Write-down Threshold**" means 7 per cent.

2. AMOUNT AND DENOMINATION; FORM AND TRANSFER

(a) *Amount and denomination*

The initial aggregate principal amount of the Notes will be CHF 275,000,000. The Notes will be issued to Holders in minimum denominations of CHF 200,000 and integral multiples of CHF 200,000 in excess thereof. The principal amount of the Notes may be written down in the circumstances and in the manner described in Condition 6 (*Contingent Write-down*). The Notes may only be held and transferred in minimum denominations of CHF 200,000 and integral multiples of CHF 200,000 in excess thereof.

(b) *Uncertificated securities*

The Notes are issued in uncertificated form as uncertificated securities (*Wertrechte*) in accordance with article 973c of the Swiss Code. The uncertificated securities (*Wertrechte*) will be created by the Issuer by means of a registration in its register of uncertificated securities (*Wertrechtebuch*). Such uncertificated securities will then be entered into the main register (*Hauptregister*) of SIX SIS Ltd or any other intermediary in Switzerland recognised for such purposes by SIX Swiss Exchange Ltd (SIX SIS Ltd or any such other intermediary, the "**Intermediary**"). Once the uncertificated securities are registered in the main register (*Hauptregister*) of the Intermediary and entered into the accounts of one or more participants of the Intermediary, the Notes will constitute intermediated securities (*Bucheffekten*) within the meaning of the Swiss Federal Intermediated Securities Act (*Bucheffektengesetz*) ("**Intermediated Securities**").

So long as the Notes are Intermediated Securities, the Notes may only be transferred by the entry of the transferred Notes in a securities account of the transferee.

The records of the Intermediary will determine the number of Notes held through each participant in the Intermediary.

Neither the Issuer nor any Holder nor any other person shall at any time have the right to effect or demand the conversion of the uncertificated securities (*Wertrechte*) into, or the delivery of, a global note (*Globalurkunde*) or definitive Notes (*Wertpapiere*).

3. STATUS AND SUBORDINATION

(a) Status

The Notes constitute direct, unsecured and subordinated obligations of the Issuer and rank *pari passu* and without any preference among themselves. The rights and claims of the Holders against the Issuer under the Notes are subordinated as described in clause (b) of this Condition 3.

(b) Subordination

In the event of (i) a Bankruptcy Event or (ii) an order being made, or an effective resolution being passed, for the liquidation or winding-up of the Issuer (except, in any such case, a solvent liquidation or winding-up of the Issuer solely for the purposes of a reorganisation, reconstruction or amalgamation of the Issuer or the substitution in place of the Issuer of a successor in business to the Issuer, the terms of which reorganisation, reconstruction, amalgamation or substitution (x) have previously been approved by a valid resolution of the Holders and (y) do not provide that the Notes shall become redeemable in accordance with these Terms and Conditions), the rights and claims of the Holders against the Issuer in respect of or arising under (including, without limitation, any damages awarded for breach of any obligation under) the Notes will, subject to any obligations that are mandatorily preferred by law, rank (A) junior to the rights and claims of all holders of Senior Obligations, (B) *pari passu* with the rights and claims of holders of Parity Obligations and (C) senior to the rights and claims of holders of Junior Obligations.

(c) Claims subject to a Contingent Write-down

Any claim of any Holder in respect of or arising under the Notes (including, without limitation, any claim in relation to any unsatisfied payment obligation of the Issuer subject to enforcement by any Holder pursuant to Condition 10 (*Events of Default*) or in relation to the occurrence of any other Event of Default) will be subject to, and superseded by, clause (d) of Condition 6 (*Contingent Write-down*), irrespective of whether the relevant Write-down Notice has been given prior to or after the occurrence of an Event of Default or any other event.

4. INTEREST

(a) Interest Payment Dates

(i) Subject to Condition 6 (*Contingent Write-down*) and clause (i) of this Condition 4, the Notes will bear interest on their principal amount (A) from (and including) the Issue Date to (but excluding) the First Call Date, at the Fixed Interest Rate, and (B) thereafter, at the applicable Reset Interest Rate.

(ii) Subject to Condition 6 (*Contingent Write-down*) and clause (j) of this Condition 4, interest on the Notes will be payable annually in arrear on 13 November of each year (each, an "**Interest Payment Date**"), commencing on 13 November 2020.

(b) Determination of Mid Market Swap Rate in relation to a Reset Interest Period

With respect to each Reset Interest Period and subject to clause (c) of this Condition 4, the Calculation Agent will, as soon as practicable after the Relevant Time on the Reset Determination Date in relation to such Reset Interest Period, determine the Mid Market Swap Rate and the Reset Interest Rate for such Reset Interest Period and calculate the amount of interest payable per Calculation Amount on the Interest Payment Date in relation to each Interest Period falling in such Reset Interest Period (each, a "**Reset Interest Amount**").

(c) *Benchmark replacement*

If the Issuer (in consultation with the Calculation Agent) determines prior to any Reset Determination Date that the rate referred to in clause (a) of the definition of Mid Market Swap Rate (the "**Existing Benchmark Rate**") has been discontinued, then the following provisions shall apply (subject to the subsequent operation of this clause (c)):

(i) the Issuer shall use reasonable endeavours to appoint an Independent Adviser to determine in the Independent Adviser's discretion, in accordance with subclause (iv) below, an alternative rate to the Existing Benchmark Rate (the "**Alternative Benchmark Rate**") no later than three Business Days prior to the Reset Determination Date relating to the next succeeding Reset Interest Period (such Business Day, the "**Independent Adviser Determination Cut-off Date**", and such next succeeding Reset Interest Period, the "**Affected Reset Interest Period**") for purposes of determining the Mid Market Swap Rate in respect of the Affected Reset Interest Period and all Reset Interest Periods thereafter;

(ii) if prior to the Independent Adviser Determination Cut-off Date the Issuer is unable to appoint an Independent Adviser or the Independent Adviser appointed by the Issuer fails to determine an Alternative Benchmark Rate in accordance with subclause (iv) below, then the Issuer (in consultation with the Calculation Agent) may determine in its discretion, in accordance with subclause (iv) below, the Alternative Benchmark Rate for purposes of determining the Mid Market Swap Rate in respect of the Affected Reset Interest Period and all Reset Interest Periods thereafter;

(iii) if subclause (ii) above applies and the Issuer is unable or unwilling to determine the Alternative Benchmark Rate prior to the Reset Determination Date relating to the Affected Reset Interest Period in accordance with subclause (iv) below, the Mid Market Swap Rate in respect of the Affected Reset Interest Period will be equal to the Mid Market Swap Rate in respect of the immediately preceding Reset Interest Period (or, if there is no preceding Reset Interest Period, the Reset Interest Rate applicable to the Affected Reset Interest Period will be equal to the Fixed Interest Rate); *provided, however,* that, if this subclause (iii) applies to the Affected Reset Interest Period, the Reset Interest Rate for all succeeding Reset Interest Periods shall be the Reset Interest Rate applicable to the Affected Reset Interest Period as determined in accordance with this subclause (iii) unless (A) the Issuer, in its sole discretion, elects to determine an Alternative Benchmark Rate in respect of any such succeeding Reset Interest Period and all Reset Interest Periods thereafter in accordance with the processes set out in this clause (c), and
(B) an Alternative Benchmark Rate is so determined;

(iv) in the case of any determination of an Alternative Benchmark Rate pursuant to subclause (i) or (ii) above, the Alternative Benchmark Rate shall be such rate as the Independent Adviser or the Issuer (in consultation with the Calculation Agent and acting in good faith and a commercially reasonable manner), as applicable, determines in its reasonable discretion has replaced the Existing Benchmark Rate in customary market usage, or, if the Independent Adviser or the Issuer, as applicable, determines in its reasonable discretion that there is no such rate, such other rate as the Independent Adviser or the Issuer (in consultation with the Calculation Agent and acting in good faith and a commercially reasonable manner) determines in its reasonable discretion is most comparable to the Existing Benchmark Rate; and

(v) if the Independent Adviser or the Issuer determines an Alternative Benchmark Rate in accordance with the above provisions of this clause (c),

(A) the Independent Adviser (in the case of subclause (2) below, in consultation with the Issuer) or, following consultation with the Calculation Agent, the Issuer (as the case may be) shall also determine in its reasonable discretion (1) the method for obtaining the Alternative Benchmark Rate, including the page on or source from which the Alternative Benchmark Rate appears or is obtained (the "**Alternative Relevant Page**"), and the time at which the Alternative Benchmark Rate appears on, or is obtained from, the Alternative Relevant Page (the "**Alternative Relevant Time**"), (2) whether to apply an Adjustment Spread to the Alternative Benchmark Rate and, if so, the Adjustment Spread, which Adjustment Spread must be recognised or acknowledged as being in customary market usage in international debt capital markets transactions that reference the Existing Benchmark Rate, where such rate has been replaced by the Alternative Benchmark Rate, and (3) any alternative method for determining the Mid Market Swap Rate if such Alternative Benchmark Rate is unavailable on the relevant Reset Determination Date, which alternative method shall be consistent with any Alternative Benchmark Rate that has broad market support;

(B) for the Affected Reset Interest Period and all Reset Interest Periods thereafter, (1) clause (a) of the definition of Mid Market Swap Rate shall be amended pursuant to clause (b) of Condition 11 (*Substitution and Amendment*) to give effect to the determination described in subclause (A)(1) above and any Adjustment Spread determined pursuant to subclause (A)(2) above, and (2) clause (b) of the definition of Mid Market Swap Rate shall be amended pursuant to clause (b) of Condition 11 (*Substitution and Amendment*) to give effect to the determination described in subclause (A)(3) above;

(C) references to the Relevant Page and to the Relevant Time in these Terms and Conditions shall be deemed to be references to the Alternative Relevant Page and the Alternative Relevant Time, respectively;

(D) if any changes to the definitions of Day Count Fraction, Business Day and/or Reset Determination Date are necessary in order to implement the amendments described in subclause (B) above and, if so, such definitions shall be amended pursuant to clause (b) of Condition 11 (*Substitution and Amendment*) to reflect such changes; and

(E) the Issuer shall promptly give notice to the Holders in accordance with Condition 12 (*Notices*) specifying the Alternative Benchmark Rate (including any Adjustment Spread determined pursuant to subclause (A)(2) above and any alternative method for determining the Mid Market Swap Rate described in subclause (A)(3) above), the Alternative Relevant Page, the Alternative Relevant Time, and any amendments implemented pursuant to clause (b) of Condition 11 (*Substitution and Amendment*) as described in subclause (D) above.

(d) Publication of Reset Interest Rate and interest amount payable upon redemption

With respect to each Reset Interest Period, as soon as practicable after such determination but in any event not later than the relevant Reset Date, the Calculation Agent will cause
(i) the relevant Reset Interest Rate and the relevant Reset Interest Amount determined by it, together with the Interest Payment Date in relation to each Interest Period falling in such Reset Interest Period, to be notified to the Issuer and the Paying Agents and (ii) the relevant Reset Interest Rate determined by it to be notified to any stock exchange or other relevant authority on which the Notes are at the relevant time listed and to be published in accordance with Condition 12

(*Notices*).

The Calculation Agent shall calculate any interest amount payable on the Redemption Date (if the Notes are to be redeemed pursuant to Condition 5 (*Redemption and Purchase*) and cause such interest amount to be notified to Issuer and the Paying Agents and to any stock exchange or other relevant authority on which the Notes are at the relevant time listed and to be published in accordance with Condition 12 (*Notices*) no later than two Business Days prior to the Redemption Date.

(e) *Calculation of amount of interest per Calculation Amount*

Subject to Condition 6 (*Contingent Write-down*) and clause (j) of this Condition 4:

(i) the amount of interest payable per Calculation Amount on each Interest Payment Date after the Issue Date to (but excluding) the First Call Date in respect of the Notes will be CHF 6,000.

(ii) if interest is required to be paid in respect of a Note on any other date (including, for the avoidance of doubt, the Reset Interest Amount), the amount of interest payable per Calculation Amount on such date will be calculated by:

(A) applying the applicable Interest Rate to the Calculation Amount;

(B) multiplying the product thereof by the Day Count Fraction; and

(C) rounding the resulting figure to the nearest cent (half a cent being rounded upwards).

(f) *Calculation of amount of interest per Note*

Subject to Condition 6 (*Contingent Write-down*) and clause (j) of this Condition 5, the amount of interest payable in respect of a Note will be the product of:

(i) the amount of interest per Calculation Amount; and

(ii) the number by which the Calculation Amount is required to be multiplied to equal the denomination of such Note.

(g) *Notifications, etc. to be final*

All notifications, opinions, determinations, certificates, calculations, quotations and decisions given, expressed, made or obtained for the purposes this Condition 4, whether by the Reset Reference Banks (or any of them) or the Calculation Agent, will (in the absence of wilful default, bad faith and manifest error) be binding on the Issuer, the Calculation Agent, the Paying Agents and the Holders and (in the absence of wilful default and bad faith) no liability to the Issuer or the Holders will attach to the Reset Reference Banks (or any of them) or the Calculation Agent in connection with the exercise or non- exercise by the Calculation Agent of its powers, duties and discretions under this Condition 4.

(h) *Calculation Agent*

So long as any Note is outstanding, the Issuer will at all times maintain a Calculation Agent. If the Calculation Agent is unable or unwilling to act as such or if the Calculation Agent fails to (i) duly calculate the Mid Market Swap Rate and the Reset Interest Amount for any Interest Period or the interest amount payable on the Redemption Date (if the Notes are to be redeemed pursuant to Condition 5 (*Redemption and Purchase*)) or (ii) comply with any other requirement in relation to the Notes, the Issuer shall appoint a leading bank or financial institution that is experienced in the calculations or determinations to be made by the Calculation Agent to act as such in the Calculation Agent's place. The Calculation Agent may not resign its duties without a successor having been appointed as aforesaid. Any termination or appointment of the Calculation Agent pursuant to this clause (h) shall take effect not more than 45 and not less than 30 days' after the Issuer has notified the Holders of such termination or appointment pursuant to Condition 12 (*Notices*); *provided*, *however*, that, in the case of insolvency of the Calculation Agent, such termination or appointment will take immediate effect.

(i) Accrual of interest in the case of redemption or a Write-down Event

(i) Subject to Condition 6 (*Contingent Write-down*), if the Notes are to be redeemed pursuant to clause (b), (c) or (d) of Condition 5 (*Redemption and Purchase*), interest on the Notes will accrue up to (but excluding) the relevant Redemption Date, and will cease to accrue on such Redemption Date; *provided*, *however*, that if the payment with respect to any Note is improperly withheld or refused on such Redemption Date, interest will continue to accrue on the principal amount of such Note (both before and after judgment) at the relevant Interest Rate to the Relevant Date.

(ii) Upon the occurrence of a Write-down Event, interest on the Notes will cease to accrue and any accrued and unpaid interest as at the time of such Write-down Event (whether or not due and payable) will be written down to zero in accordance with Condition 6 (*Contingent Write-dow*n).

(j) Cancellation of interest; prohibited interest

(i) The Issuer may, at its discretion, elect to cancel all or part of any payment of interest on the Notes (including, for the avoidance of doubt, any related Additional Amounts) that is otherwise scheduled to be paid on an Interest Payment Date. This subclause (j)(i) is without prejudice to the provisions of subclause (j)(ii) of this Condition 4. Non-payment of any amount of interest by the Issuer to the Principal Paying Agent will constitute evidence of cancellation of the relevant payment, whether or not notice of cancellation has been given by the Issuer.

If practicable, the Issuer shall provide notice of any cancellation of interest (in whole or in part) pursuant to this subclause (j)(i) to the Holders on or prior to the relevant Interest Payment Date. If practicable, the Issuer shall endeavour to provide such notice at least five Business Days prior to the relevant Interest Payment Date. Failure to provide such notice will not have any impact on the effectiveness of, or otherwise invalidate, any such cancellation of interest, or give Holders any rights as a result of such failure.

(ii) The Issuer will be prohibited from making, in whole or in part, any payment of interest on the Notes (including, for the avoidance of doubt, any related Additional Amounts) on the relevant Interest Payment Date if and to the extent that:

(A) the amount of Distributable Items as at such Interest Payment Date is less than the sum of (1) the amount of such interest payment, plus (2) all other payments (other than redemption payments) made by UBS Group AG on or in respect of the Notes or any Parity Obligations or Junior Obligations since the balance sheet date of the Relevant Accounts and prior to such Interest Payment Date, plus (3) all payments (other than redemption payments) payable by UBS Group AG on such Interest Payment Date on or in respect of any Parity Obligations or Junior Obligations, in the case of each of clauses (1), (2) and (3), excluding any portion of such payments already accounted for in determining the amount of such Distributable Items; and/or

(B) UBS Group AG is not, or will not immediately after the relevant payment of interest be, in compliance with all applicable minimum capital adequacy requirements of the National Regulations on a consolidated (*Finanzgruppe*) basis (for the avoidance of doubt, it being understood that such minimum requirements will reflect any reduction in such requirements granted by the FINMA to the Group pursuant to the Capital Adequacy Ordinance); and/or

(C) the FINMA has required the Issuer not to make such interest payment.

The Issuer shall deliver a certificate signed by the Authorised Signatories to the Principal Paying Agent and shall give notice in accordance with Condition 12 (*Notices*) to the Holders, in each case as soon as practicable following any determination that interest is required to be cancelled pursuant to this subclause (j)(ii) or, where no such prior determination is made, promptly following any Interest Payment Date on which interest was scheduled to be paid if such interest is being cancelled in accordance with this subclause (j)(ii), to such effect setting out brief details as to the amount of interest being cancelled and the reason therefor. Failure to provide such certificate and notice will not have any impact on the effectiveness of, or otherwise invalidate, any such cancellation or give any Holder any rights as a result of such failure.

(iii) If, on any Interest Payment Date, any payment of interest scheduled to be made on such date is not made in full pursuant to subclause (j)(i) or subclause (j)(ii) of this Condition 4, UBS Group AG shall not, directly or indirectly,

(A) recommend to holders of Ordinary Shares that any dividend or other distribution in cash or in kind (other than in the form of Ordinary Shares) be paid or made on any Ordinary Shares; and

(B) redeem, purchase or otherwise acquire any Ordinary Shares other than as a Permitted Transaction,

in each case unless and until (x) the interest payment due and payable on the Notes on any subsequent Interest Payment Date has been paid in full (or an amount equal to the same has been paid in full to a designated third party trust account for the benefit of the Holders prior to payment by the trustee thereof to the Holders on such subsequent Interest Payment Date) or, if earlier, (y) all outstanding Notes have been cancelled in accordance with these Terms and Conditions.

(iv) Payments of interest on the Notes are not cumulative. Notwithstanding any other provision in these Terms and Conditions, the cancellation or non-payment of any interest amount by virtue of this Condition 4(j) will not constitute a default for any purpose (including, without limitation, Condition 10 (*Events of Default*) on the part of the Issuer. Any interest payment not paid by virtue of this Condition 4(j) will not accumulate or be payable at any time thereafter, and Holders will have no right thereto.

(v) If UBS Group AG determines, after consultation with the FINMA, that the Notes do not, or will cease to, fully qualify as Additional Tier 1 Capital, (A) the Issuer shall not, to the extent permitted under National Regulations, exercise its discretion pursuant to subclause (j)(i) of this Condition 4 to cancel any interest payments due on the Notes on any Interest Payment Date following the occurrence of such determination, and (B) the Issuer shall give notice to the Holders in accordance with Condition 12 (*Notices*) as soon as practicable after such determination stating that the Issuer may no longer exercise its discretion pursuant to subclause (j)(i) of this Condition 4 to cancel any interest payments as from the date of such notice.

5. REDEMPTION AND PURCHASE

(a) No fixed redemption date

The Notes are perpetual securities in respect of which there is no fixed redemption date. Unless previously redeemed or purchased and cancelled in accordance with this Condition 5 and subject to Condition 6 (*Contingent Write-down*), the Notes are perpetual and may only be redeemed or purchased in accordance with this Condition 5.

(b) *Redemption at the option of the Issuer*

Subject to clause (e) of this Condition 5, the Issuer may elect, in its sole discretion, to redeem the Notes, in whole but not in part, on the First Call Date or any Interest Payment Date thereafter at their aggregate principal amount, together with any accrued and unpaid interest thereon to (but excluding) the Redemption Date.

(c) *Redemption due to a Tax Event*

(i) Subject to clause (e) of this Condition 5, upon the occurrence of a Tax Event at any time after the Issue Date, the Issuer may elect, in its sole discretion, to redeem the Notes, in whole but not in part, on the relevant Redemption Date at their aggregate principal amount, together with any accrued and unpaid interest thereon to (but excluding) such Redemption Date.

(ii) A "**Tax Event**" will have occurred if the Issuer in making any payments on the Notes (A) has paid, or will or would on the next payment date be required to pay, Additional Amounts, or (B) has paid, or will or would be required to pay, any additional Tax in respect of the Notes, in the case of each of clauses (A) and (B), under the laws or regulations of a Tax Jurisdiction or any political subdivision thereof or any authority of or in a Tax Jurisdiction or any political subdivision thereof having the power to impose, levy, collect, withhold or assess Taxes, including, without limitation, any treaty to which a Tax Jurisdiction is a party, or any generally published application or interpretation of such laws (including, without limitation, a decision of any court or tribunal, any generally published application or interpretation of such laws by any relevant tax authority or any generally published pronouncement by any relevant tax authority), and the Issuer cannot avoid the foregoing by taking measures reasonably available to it.

(d) *Redemption due to a Regulatory Event*

(i) Subject to clause (e) of this Condition 5, upon the occurrence of a Regulatory Event at any time after the Issue Date, the Issuer may elect, in its sole discretion, to redeem the Notes, in whole but not in part, on the relevant Redemption Date at their aggregate principal amount, together with any accrued and unpaid interest thereon to (but excluding) such Redemption Date.

(ii) A "**Regulatory Event**" will have occurred if any of the Notes ceases to be eligible in full to be (A) treated as Additional Tier 1 Capital, and/or (B) counted towards either the Going-Concern LR Requirement or the Going-Concern RWA Requirement (or both).

(e) *Conditions for redemption*

(i) If the Issuer elects to redeem the Notes pursuant to clause (b), (c) or (d) of this Condition 5, the Issuer shall give the Holders not less than 30 and not more than 60 days' prior notice in accordance with Condition 12 (*Notices*) (a "**Redemption Notice**"), which notice shall, subject to clause (f) of this Condition 5, be irrevocable and specify the date on which the Issuer will redeem the Notes pursuant to such clause of this Condition 5 (such specified date, the "**Redemption Date**").

(ii) The Issuer may only redeem the Notes pursuant to clause (b) or (c) of this Condition 5 on the relevant Redemption Date if the FINMA has approved such redemption on or prior to such Redemption Date, if such approval is then required under applicable Swiss laws and regulations.

(iii) The Issuer may only redeem the Notes pursuant to any clause of this Condition 5 on the relevant Redemption Date if no Trigger Event or Viability Event has occurred prior to such Redemption Date.

(iv) Prior to the publication of any notice of redemption pursuant to subclause (e)(i) of this Condition 5, the Issuer shall deliver to the Principal Paying Agent (A) a certificate signed by two Authorised Signatories stating that the relevant requirement or circumstance giving rise to the right to redeem under this Condition 5 is satisfied and the reasons therefor and such certificate will be conclusive and binding on the Holders, and (B) an opinion of independent legal advisers of recognised standing to the effect that circumstances entitling the Issuer to exercise its right of redemption under this Condition 5 havearisen.

(f) *Purchases*

The Issuer or any other member of the Group or any of their respective affiliates may at any time purchase Notes at any price in the open market or otherwise, *provided* that
(i) such purchase complies with any limits or conditions to which any member of the Group is subject under applicable banking laws and regulations at the time of such purchase, (ii) other than in the case of purchases made in connection with stabilisation measures in compliance with applicable law or in connection with any market making in the Notes, the FINMA has approved such purchase (if such approval is then required under applicable Swiss laws and regulations) on or prior to the date of such purchase, and (iii) no Trigger Event or Viability Event has occurred prior to the date of such purchase. Any Notes so purchased may, at the option of the Issuer, be held, reissued, resold or cancelled.

(g) *Cancellation*

All Notes redeemed in accordance with this Condition 5 will be cancelled and may not be reissued or resold.

(h) *Redemption of other instruments*

For the avoidance of doubt, it is understood that, if, upon the occurrence of a Tax Event or a Regulatory Event, the Issuer does not elect to redeem the Notes pursuant to this Condition 5, nothing in this Condition 5 or any other provision of these Terms and Conditions will prohibit the Issuer from redeeming (whether early, at maturity or otherwise) any other instruments issued by any member of the Group pursuant to the terms thereof.

6. CONTINGENT WRITE-DOWN

(a) *Trigger Event*

(i) Upon the occurrence of a Trigger Event, a Contingent Write-down will occur on the Trigger Event Write-down Date in accordance with clause (d) of this Condition 6.

(ii) A "**Trigger Event**" will have occurred if the Issuer gives the Holders a Trigger Event Write-down Notice in accordance with clause (b) of this Condition 6.

(b) *Trigger Event Write-down Notice*

(i) If, with respect to any Publication Date, the Trigger CET1 Ratio as of such Publication Date is less than the Write-down Threshold, the Issuer shall, subject to subclauses (b)(ii) and (b)(iii) of this Condition 6, give a Trigger Event Write- down Notice to the Holders (x) if such Publication Date is an Ordinary Publication Date, within five Business Days of such Ordinary Publication Date (such fifth Business Day, the "**Trigger Breach Determination Date**", and the date of such notice, the "**Ordinary Trigger Event Notice Date**"), and (y) if such Publication Date is an Extraordinary Publication Date, on such Extraordinary Publication Date (the "**Extraordinary Trigger Event Notice Date**"), in each case in accordance with Condition 12 (*Notices*).

(ii) If a Trigger Event Write-down Notice is required to be given pursuant to subclause (b)(i) of this Condition 6, and on the relevant Publication Date any

Higher-Trigger Contingent Capital is outstanding with respect to which either (x) no Higher-Trigger Write-down/Conversion Notice has been given prior to the Trigger Event Notice Date or (y) a Higher-Trigger Write-down/Conversion Notice has been given prior to the Trigger Event Notice Date, but the Trigger Event Write-down Date is scheduled to occur prior to the relevant Higher-Trigger Write-down/Conversion Date,

(A) in the case of clause (x) above, the giving of such Trigger Event Write- down Notice will be postponed until the date on which a Higher-Trigger Write-down/Conversion Notice has been given with respect to all such outstanding Higher-Trigger Contingent Capital and such date will be deemed to be the Trigger Event Notice Date; and

(B) in the case of clauses (x) and (y) above, if the Trigger Event Write-down Date is scheduled to occur prior to the Higher-Trigger Write- down/Conversion Date (or, in the case of more than one Higher-Trigger Write-down/Conversion Date, the latest Higher-Trigger Write- down/Conversion Date), the Trigger Event Write-down Date will be postponed to the Higher-Trigger Write-down/Conversion Date (or the latest Higher-Trigger Write-down/Conversion Date, as applicable) and such postponement shall be specified in such Trigger Event Write-down Notice.

(iii) If (A) a Trigger Event Write-down Notice is required to be given pursuant to subclause (b)(i) of this Condition 6 in relation to an Ordinary Publication Date, and (B) prior to the earlier of the Ordinary Trigger Event Notice Date and the Trigger Breach Determination Date, the FINMA, upon the request of UBS Group AG, has agreed in writing that a Contingent Write-down is not required as a result of actions taken by the Group or circumstances or events, in each case, that have had, or imminently will have, the effect of restoring the CET1 Ratio as of the Balance Sheet Date relating to the relevant Ordinary Publication Date, after giving pro forma effect to such actions, circumstances or events, to a level above the Write-down Threshold that the FINMA and UBS Group AG deem, in their sole discretion, to be adequate at such time, (x) the Issuer shall not give such Trigger Event Write-down Notice pursuant to subclause (b)(i) of this Condition 6 in relation to the relevant Ordinary Publication Date, and (y) the Issuer shall give notice to the Holders on or prior to the Trigger Breach Determination Date in accordance with Condition 12 (*Notices*), which notice shall state that no Contingent Write-down will occur in relation to the relevant Ordinary Publication Date.

(c) Viability Event

(i) Subject to clause (f) of this Condition 6, upon the occurrence of a Viability Event, (A) the Issuer shall give notice to the Holders in accordance with Condition 12 (*Notices*) within three days of the date on which such Viability Event occurred, which notice shall (x) state that a Viability Event has occurred and a Contingent Write-down will take place and (y) specify the date on which the Contingent Write-down will take place, which date shall be no later than ten Business Days after the date of such notice (such specified date, the "**Viability Event Write- down Date**", and such notice, a "**Viability Event Write-down Notice**"), and
(B) a Contingent Write-down will occur on the Viability Event Write-down Date in accordance with clause (d) of this Condition 6.

(ii) A "**Viability Event**" will have occurred if prior to an Alternative Loss Absorption Date (if any):

(A) the FINMA has notified UBS Group AG in writing that it has determined a write-down of the Notes, together with the conversion or write-down, as applicable, of holders' claims in respect of all other capital instruments issued by, or other capital obligations (whether qualifying fully or partially for capital treatment) of, any member of the Group that, pursuant to their terms or by operation of law, are capable of being converted into equity or written down at that time, is, because customary measures to improve the Group Holding Company's capital adequacy are at the time inadequate or infeasible, an essential requirement to prevent the Group Holding Company from becoming insolvent, bankrupt, unable to pay a material part of its debts as they fall due or unable to carry on its business; or

(B) customary measures to improve the Group Holding Company's capital adequacy being at the time inadequate or infeasible, the Group Holding Company has received an irrevocable commitment of direct or indirect extraordinary support from the Public Sector (beyond customary transactions and arrangements in the ordinary course) that has, or imminently will have, the effect of improving the Group Holding Company's capital adequacy and without which, in the determination of (and as notified in writing by) the FINMA, the Group Holding Company would have become insolvent, bankrupt, unable to pay a material part of its debts as they fall due or unable to carry on its business.

For the avoidance of doubt, it is understood that, a Viability Event may occur irrespective of whether or not a Trigger Event has occurred or whether any of the conditions to the issuance of a Trigger Event Write-down Notice have been met.

(d) *Contingent Write-down*

If the Issuer has given a Write-down Notice in accordance with this Condition 6, then on the relevant Write-down Date,

(i) the full principal amount of, and any accrued and unpaid interest (whether or not due and payable) on, each Note will automatically be written down to zero, the Notes will be cancelled and all references to the principal amount of the Notes in these Terms and Conditions will be construed accordingly;

(ii) the Holders will be automatically deemed to have irrevocably waived their right to receive, and will no longer have any rights against the Issuer with respect to, repayment of the aggregate principal amount of, and payment of any accrued and unpaid interest on, the Notes written down pursuant to subclause (i) of this clause (d) (*bedingter Forderungsverzicht*); and

(iii) all rights of any Holder for payment of any amounts under or in respect of the Notes (including, without limitation, any amounts arising as a result of, or due and payable upon the occurrence of, an Event of Default) will become null and void, irrespective of whether such amounts have become due and payable prior to the relevant Write-down Notice Date or the Write-down Date.

(e) *Determination of CET1 Ratio and Trigger CET1 Ratio*

With respect to any Publication Date, (i) the CET1 Ratio as of the relevant Balance Sheet Date, (ii) the Trigger CET1 Ratio as of such Publication Date and (iii) the components of both of the foregoing, in each case, as published on such Publication Date, will be final for purposes of this Condition 6, and any revisions, restatements or adjustments to any of the calculations described in subclauses (i) through (iii) of this clause (e) subsequently published will have no effect for purposes of this Condition 6.

(f) *Alternative loss absorption*

In the event of the implementation of any new, or amendment to or change in the interpretation of any existing, laws or components of National Regulations, in each case occurring after the Issue Date, that alone or together with any other law(s) or regulation(s) has, in the joint determination of UBS Group AG and the FINMA, the effect that clause (c) of this Condition 6 could cease to apply to the Notes without giving rise to a Regulatory

Event, then the Issuer shall give notice to the Holders in accordance with Condition 12 (*Notices*) no later than five Business Days after such joint determination stating that such provisions will cease to apply from the date of such notice (the "**Alternative Loss Absorption Date**"), and from the date of such notice, such provisions will cease to apply to the Notes.

7. PAYMENTS

(a) All payments required to be made under the Notes will be made available in good time in freely disposable funds in CHF, which will be placed at the free disposal of the Principal Paying Agent on behalf of the Holders. If the Scheduled Due Date for any payment (whether in respect of principal, interest or otherwise) in respect of the Notes is not a Business Day, then the Holders will not be entitled to payment thereof until the first Business Day immediately following the Scheduled Due Date, and the Holders will not be entitled to any additional sum in relation to such payment. All payments required to be made under the Notes (including, for the avoidance of doubt, any Additional Amounts) shall be made to the Holders in CHF without collection costs, without any restrictions and whatever the circumstances may be, irrespective of nationality, domicile or residence of the relevant Holder and without certification, affidavit or the fulfilment of any other formality.

(b) The Issuer reserves the right to terminate the appointment of the Principal Paying Agent, as well as to appoint or, after any such appointment, to terminate the appointment of, one or more other paying agents to carry out any payment, calculation or other functions in respect of the Notes (each, a "**Paying Agent**", which term includes the Principal Paying Agent). Any such appointment or termination of appointment shall only take effect not more than 45 and not less than 30 days' after the Issuer has notified the Holders of such appointment or termination pursuant to Condition 12 (*Notices*); *provided*, *however*, that, in the case of insolvency of any Paying Agent, any termination of such Paying Agent and appointment of any other Paying Agent will take immediate effect. In addition, for so long as the Notes are listed on the SIX Swiss Exchange, the Issuer shall maintain a Paying Agent in Switzerland, which agent shall have an office in Switzerland and be a bank or securities dealer subject to supervision by the FINMA, to perform the functions of a Swiss paying agent.

8. TAXATION

(a) All payments to be made by or on behalf of the Issuer in respect of the Notes (including, for the avoidance of doubt, payments by a Paying Agent) shall be made without withholding or deduction for, or on account of, any present or future taxes, duties, assessments or other government charges of any nature ("**Taxes**") imposed, levied, collected, withheld or assessed by or on behalf of any Tax Jurisdiction or any political subdivision thereof or any authority of or in a Tax Jurisdiction or any political subdivision thereof having the power to impose, levy, collect, withhold or assess Taxes, unless withholding, deduction or accounting for such Taxes is required by law.

(b) In the event that any payment to be made by or on behalf of the Issuer in respect of the Notes (including, for the avoidance of doubt, payments by a Paying Agent) is subject to any withholding or deduction for, or on account of, any Taxes by requirement of law in a Tax Jurisdiction (as determined by the relevant tax authority of or in such Tax Jurisdiction), the Issuer shall pay such additional amounts as will result in the Holders receiving the amounts that they would have received in respect of the Notes if no such withholding or deduction had been required ("**Additional Amounts**").

(c) No Additional Amounts will be payable pursuant to clause (b) of this Condition 8 in relation to any Note:

(i) if the relevant Holder is liable for such Taxes on such Note as a result of having some connection with the relevant Tax Jurisdiction other than its mere ownership or possession of such Note or the receipt of principal or interest in respect thereof; or

(ii) with respect to any Tax collected pursuant to the provisions of, or any laws or an agreement with any Tax Jurisdiction relating to, Sections 1471 through 1474 of the US Internal Revenue Code (commonly referred to as "FATCA"); or

(iii) where such withholding or deduction is required to be made pursuant to laws enacted by Switzerland providing for the taxation of payments according to principles similar to those laid down in the draft legislation of the Swiss Federal Council of 17 December 2014, or otherwise changing the Swiss federal withholding tax system from an issuer-based system to a paying agent-based system pursuant to which a person other than the issuer is required to withhold tax on any interest payments; or

(iv) to the extent any combination of subclauses (i) through (iii) of this clause (c) applies.

(d) Any reference in these Terms and Conditions to amounts payable by the Issuer in respect of the Notes includes (i) any Additional Amount payable pursuant to this Condition 8 and
(ii) any sum payable pursuant to an obligation taken in addition to or in substitution for the obligation in this Condition 8.

9. STATUTE OF LIMITATIONS

In accordance with Swiss law, (a) claims for interest payments under the Notes will become time- barred after the five-year period and (b) claims for the repayment or redemption of Notes will become time-barred after the ten-year period, in each case, commencing on the date on which such payments, repayment or redemption become due and payable.

10. EVENTS OF DEFAULT

(a) If any of the following events occurs, such occurrence will constitute an "**Event of Default**":

(i) the Issuer fails to pay the principal amount of any Note if and when the same becomes due and payable under these Terms and Conditions, and such failure continues unremedied for a period of 30 days; or

(ii) the Issuer fails to pay any interest on the Notes if and when the same becomes due and payable under these Terms and Conditions, and such failure continues unremedied for a period of 30 days; or

(iii) the Issuer fails to observe or perform any other covenant, condition, or agreement contained in these Terms and Conditions, and such failure continues unremedied for a period of 60 days after written notice thereof from any Holder to the Issuer; or

(iv) a Bankruptcy Event.

(b) Upon the occurrence of an Event of Default relating to any failure of the Issuer to meet any payment obligation under these Terms and Conditions and subject to Condition 6 (*Contingent Write-down*), (i) such payment obligation (and such payment obligation only) will be immediately deemed a due and payable (*fällige*) payment obligation of the Issuer, and (ii) if (A) the relevant Holder has formally requested payment of such payment obligation, (B) such payment obligation has not been fulfilled within the statutory period under Swiss law commencing after the date of such formal request and (C) a writ of payment (*Zahlungsbefehl*) has been issued with respect to such payment obligation pursuant to the DEBA, the relevant Holder may institute proceedings against the Issuer in Switzerland (but not elsewhere) to enforce its rights with respect to such payment obligation under the DEBA.

(c) If a debt collection or insolvency proceeding with respect to the Issuer is instituted in Switzerland in accordance with clause (b) of this Condition 10, the Issuer shall not (i) after having received the writ of payment (*Zahlungsbefehl*) relating to the relevant payment obligation, argue or plead that such payment obligation is not due and payable by the Issuer, or (ii) prior to the declaration of bankruptcy (or similar proceeding under Swiss insolvency laws), make any payment to the relevant Holder under or in connection with the Notes.

(d) In the case of any Event of Default arising under subclause (a)(iii) of this Condition 10 and subject to Condition 6 (*Contingent Write-down*), any Holder may seek specific performance or damages with respect to such Event of Default pursuant to the Swiss Code if so entitled thereunder. Any such damage claim of any Holder will rank junior to the rights and claims of all holders of Senior Obligations.

(e) In the case of any Event of Default arising under subclause (a)(iv) of this Condition 10 and subject to Condition 6 (*Contingent Write-down*), any Holder may, by written notice to the Issuer, declare the principal amount of any of its Notes, together with any accrued and unpaid interest thereon, immediately due and payable, without presentment, demand, protest or other notice of any kind.

(f) No remedy against the Issuer other than those described in this Condition 10 will be available to the Holders in connection with the Issuer's obligations under these Terms and Conditions, whether for the recovery of amounts owing under these Terms and Conditions or in respect of any breach by the Issuer of any of its other obligations under these Terms and Conditions or otherwise. In particular, no Holder may declare (i) the principal amount of any Notes due and payable prior to any Redemption Date, or (ii) any interest on any Notes due and payable prior to the relevant Interest Payment Date, except, in the case of each of subclauses (i) and (ii) of this clause (f), pursuant to clause (e) of this Condition 10.

11. SUBSTITUTION AND AMENDMENT

(a) If a Tax Event, a Regulatory Event or an Alignment Event has occurred, the Issuer may, without the consent of the Holders unless so required by mandatory provisions of Swiss law, either substitute all, but not some only, of the Notes for, or amend these Terms and Conditions so that they remain or become, Compliant Securities, *provided* that:

(i) neither a Tax Event nor a Regulatory Event arises as a result of such substitution or amendment;

(ii) the FINMA has approved such substitution or amendment (if such approval is then required under applicable Swiss laws and regulations);

(iii) the Issuer has given the Holders not less than 30 days' notice of such substitution or amendment in accordance with Condition 12 (*Notices*), which notice (the "**Substitution or Amendment Notice**") will, subject to subclause (a)(iv) of this Condition 11, be irrevocable, and state the date on which such substitution or amendment will be effective (the "**Substitution or Amendment Effective Date**");

(iv) prior to the publication of any notice pursuant to subclause (a)(iii) of this Condition 11, the Issuer shall deliver to the Principal Paying Agent (A) a certificate signed by two Authorised Signatories stating that the relevant requirement or circumstance giving rise to the right to substitute or amend the terms of the Notes, as applicable, pursuant to this clause (a) of this Condition 11 is satisfied and the reasons therefor and such certificate will be conclusive and binding on the Holders, and (B) an opinion of independent legal advisers of recognised standing to the effect that circumstances entitling the Issuer to exercise its right to substitute or amend the terms of the Notes, as applicable, pursuant to this clause (a) of this Condition 11 have arisen; and

(v) no Trigger Event or Viability Event has occurred prior to the relevant Effective Date.

In connection with any substitution or amendment in accordance with this clause (a) of this Condition 11, the Issuer shall comply with the rules of any stock exchange on which the Notes are for the time being listed or admitted to trading.

An "**Alignment Event**" will have occurred if, as a result of any change in National Regulations at any time after the Issue Date, any Relevant Swiss Issuer would be permitted to issue or guarantee (including, without limitation, by providing a guarantee, credit support agreement or similar undertaking), or has issued or guaranteed (including, without limitation, by providing a guarantee, credit support agreement or similar undertaking), a capital instrument that (i) is eligible in full to be (A) treated as Additional Tier 1 Capital and (B) counted towards either the Going-Concern LR Requirement or the Going-Concern RWA Requirement (or both), and (ii) has terms and conditions that (A) include a write- down feature, and (B) contain one or more provisions that are, in the reasonable opinion of UBS Group AG, different in any material respect from those in these Terms and Conditions, which provisions, if they had been included in these Terms and Conditions, would have prevented the Notes from being eligible in full to be treated as Additional Tier 1 Capital and/or to be counted towards either the Going-Concern LR Requirement or the Going-Concern RWA Requirement (or both) immediately prior to such change in National Regulations.

(b) In addition to its rights under clause (a) of this Condition 11, the Issuer may, without the consent of the Holders unless so required by mandatory provisions of Swiss law, make any amendment to these Terms and Conditions that it considers to be (i) necessary or desirable to give effect to (A) any Alternative Benchmark Rate determined in accordance with clause (c) of Condition 4 (*Interest*) (including any Adjustment Spread determined in accordance with subclause (v)(A)(2) thereof and any alternative method for determining the Mid Market Swap Rate if such Alternative Benchmark Rate is unavailable on the relevant Reset Determination Date determined in accordance with subclause (v)(A)(3) thereof), or (B) the provisions of clause (a) of Condition 13 (*Issuer Substitution*) (including, without limitation, (x) if the Substitute Issuer is organised and/or resident for tax purposes in a jurisdiction other than Switzerland, any amendments to any references to the jurisdiction of "Switzerland" contained herein, including, without limitation, amendments to the definition of the term "Bankruptcy Event", the definition of the term "Business Day", the governing law of the subordination provisions set forth in Condition 3 (*Status and Subordination*) and the provisions of Condition 10 (*Events of Default*), and
(y) any amendments to reflect UBS Group AG's guarantee described in subclause (a)(iii) of Condition 13 (*Issuer Substitution*)), or (ii) formal, minor or technical in nature, or
(iii) necessary to correct a manifest error or (iv) not materially prejudicial to the interests of the Holders.

(c) The Issuer shall notify the Holders of any amendments made pursuant to clause (b) of this Condition 11 in accordance with Condition 12 (*Notices*), which notice shall state the date on which such amendment will be effective.

(d) Any amendment made pursuant to this Condition 11 will be binding on the Holders in accordance with its terms.

12. NOTICES

So long as the Notes are listed on the SIX Swiss Exchange, notices to Holders shall be given by the Issuer (a) by means of electronic publication on the internet website of the SIX Swiss Exchange (https://www.six-group.com/exchanges/index.html), where notices are as at the Issue Date published under the address https://www.six-group.com/exchanges/news/official_notices/search_en.html, or (b) otherwise in accordance with the regulations of the SIX Swiss Exchange. Any notice will be validly given on the date of such publication or, if published more than once, on the date of the first such publication.

If the Notes are for any reason no longer listed on the SIX Swiss Exchange, notices to Holders will be given by the Issuer to the Intermediary for forwarding to the Holders. Any such notice will be validly given on the date of delivery to the Intermediary.

13. ISSUER SUBSTITUTION

(a) The Issuer (for purposes of this Condition 13, the "**Current Issuer**") may, without the consent of the Holders, substitute any entity (whether or not such entity is organised under the laws of Switzerland) (such substitute entity, the "**Substitute Issuer**") for itself as principal debtor under the Notes upon giving no more than 30 and no less than 10 days' notice to the Holders in accordance with Condition 12 (*Notices*), *provided* that:

(i) the Substitute Issuer is UBS Group AG or at least 95 per cent. of the Substitute Issuer's capital and voting rights are held, directly or indirectly, by UBS Group AG;

(ii) the Current Issuer is not in default in respect of any amount payable under the Notes at the time of such substitution;

(iii) if the Substitute Issuer is not UBS Group AG, UBS Group AG has irrevocably and unconditionally guaranteed to the Holders, pursuant to article 111 of the Swiss Code and on a subordinated basis corresponding *mutatis mutandis* to Condition 3 (*Status and Subordination*), the due and punctual payment of principal and interest and all other amounts due and payable by the Substitute Issuer under, or in respect of, the Notes upon receipt of the written request for payment of the relevant amount, and on the terms whereby Condition 4(j)(iii) (*Interest*), Condition 8 (*Taxation*), Condition 10 (*Events of Default*) and Condition 16 (*No Set-off by Holders*) apply to UBS Group AG and to its obligations under such guarantee either by making the necessary consequential amendments to such Conditions or including such Conditions applicable to UBS Group AG and to its obligations under such guarantee in such guarantee itself, as applicable;

(iv) UBS Group AG, the Current Issuer and the Substitute Issuer (1) have entered into such documents (the "**Substitution Documents**") as are necessary to give effect to such substitution and pursuant to which the Substitute Issuer has (x) undertaken in favour of each Holder to be bound by these Terms and Conditions as the principal debtor (on a subordinated basis corresponding to Condition 3 (*Status and Subordination*)) under the Notes in place of the Current Issuer and
(y) assumed the obligations of the Current Issuer under the Agency Agreement, and (2) procure that all action, conditions and things required to be taken, fulfilled and done (including, without limitation, the obtaining of any necessary consents) to ensure that the Substitution Documents represent valid, legally binding and enforceable obligations of the Substitute Issuer have been taken, fulfilled and done and are in full force and effect;

(v) if the Substitute Issuer is resident for tax purposes in a jurisdiction (the "**New Residence**") other than that in which the Current Issuer prior to such substitution was resident for tax purposes (the "**Former Residence**"), the Substitution Documents contain an undertaking by the Substitute Issuer and/or such other provisions as may be necessary to ensure that each Holder has the benefit of an undertaking in terms corresponding to the provisions of Condition 8 (*Taxation*) in relation to the payment of all amounts due and payable under, or in respect of, the Notes and in relation to the guarantee referred to in clause (iii) above, with, in the case of the Notes but not such guarantee, the substitution of references to the Former Residence with references to the New Residence, and an undertaking by the Substitute Issuer to indemnify each Holder against any Tax that is imposed on it by (or by any authority in or of) the New Residence and, if different, the jurisdiction of the Substitute Issuer's organisation with respect to any Note and that would not have been so imposed had the substitution not been made, as well as against any Tax, and any cost or expense, relating to such substitution;

(vi) if the Substitute Issuer is not UBS Group AG, the FINMA has approved such substitution (if such approval is then required under applicable Swiss laws and regulations), and the Current Issuer and the Substitute Issuer have obtained all other necessary governmental and other approvals and consents for such substitution and for the performance by the Substitute Issuer of its obligations under the Substitution Documents;

(vii) if the Substitute Issuer is not organised under the laws of Switzerland, the Substitute Issuer has appointed a process agent as its agent in Switzerland to receive service of process on its behalf in relation to any legal proceedings arising out of or in connection with the Notes;

(viii) the Substitute Issuer has appointed a Paying Agent in Switzerland that is a participant in the Intermediary; and

(ix) such substitution does not give rise to a Tax Event or a Regulatory Event.

(b) Upon any substitution pursuant to clause (a) of this Condition 13, (i) the Substitute Issuer will succeed to, and be substituted for, and may exercise every right and power of, the Current Issuer under the Notes with the same effect as if the Substitute Issuer had been named as Issuer in these Terms and Conditions, and (ii) the Current Issuer will be released from its obligations under the Notes.

(c) After giving effect to any substitution pursuant to clause (a) of this Condition 13, (i) references to the "Issuer" in the Notes and these Terms and Conditions will be references to the Substitute Issuer, and (ii) references to the "Tax Jurisdiction" in the Notes and these Terms and Conditions will be read and construed as including the jurisdiction of establishment of the Substitute Issuer and, if different, the jurisdiction in which the Substitute Issuer is resident for tax purposes instead of or in addition to (as the case may be) references to the jurisdiction of establishment of the Issuer and Switzerland.

14. FURTHER ISSUES

The Issuer may from time to time without the consent of the Holders issue further notes and, *provided* that such notes have the same terms and conditions as the Notes in all respects (or in all respects except for the issue date and/or first date on which interest is paid), such further notes will be consolidated and form a single series with the Notes. If the Issuer issues any such further notes pursuant to this Condition 14, references in these Terms and Conditions to "**Notes**" include such further notes, unless the context otherwise requires.

15. CURRENCY INDEMNITY

Any amount received or recovered by any Holder in a currency other than CHF (whether as a result of, or of the enforcement of, a judgment or order of a court of any jurisdiction, in the insolvency, winding-up or dissolution of the Issuer or otherwise) under the Notes will only constitute a discharge of the Issuer to the extent of the amount in CHF that such Holder is able to purchase with the amount so received or recovered in such other currency on the date of such receipt or recovery (or, if it is not practicable to purchase CHF with such amount on such date, on the first date on which it is practicable to do so). If the amount of CHF that such Holder is able to purchase is less than the amount owed by the Issuer to such Holder under the Notes, the Issuer shall indemnify such Holder against any loss sustained by it as a result. In addition, the Issuer shall indemnify such Holder for the costs of making such purchase. For purposes of this Condition 15, it is sufficient for the relevant Holder to demonstrate that it would have suffered a loss had an actual purchase been made. The indemnities under this Condition 15 will (a) constitute a separate and independent obligation from the Issuer's other obligations hereunder, (b) give rise to a separate and independent cause of action, (c) apply irrespective of any indulgence granted by any Holder and (d) continue in full force and effect despite any other judgment, order, claim or proof for a liquidated amount in respect of any amount due under the Notes or any other judgment or order.

16. NO SET-OFF BY HOLDERS

Subject to applicable law, each Holder, by acceptance of any direct or beneficial interest in a Note, agrees that it will not, and waives its right to, exercise, claim or plead any right of set-off, compensation or retention with respect to any amount owed to it by the Issuer in respect of, or arising in connection with, the Notes.

17. NO CONVERSION

Notwithstanding the powers of the FINMA under articles 25 *et seq.* of the FBA or pursuant to any successor or analogous Swiss law or regulation applicable to bank holding companies in Switzerland such as UBS Group AG, the Notes shall under no circumstances be converted into equity of the Issuer, and shall only absorb losses pursuant to these Terms and Conditions.

18. GOVERNING LAW AND JURISDICTION

(a) The Notes shall be governed by and construed in accordance with the laws of Switzerland.

(b) The courts of the Canton of Zurich (venue being the City of Zurich) shall have exclusive jurisdiction to settle any disputes that may arise out of or in connection with the Notes.

Exhibit 12

CERTIFICATION UNDER SECTION 302 OF THE
SARBANES-OXLEY ACT OF 2002

I, Sergio Ermotti, certify that:

1. I have reviewed this annual report on Form 20-F of UBS Group AG;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:
   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   c. Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   d. Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):
   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: February 28, 2020

/s/ Sergio Ermotti
Name: Sergio Ermotti
Title: Group Chief Executive Officer

CERTIFICATION UNDER SECTION 302 OF THE
SARBANES-OXLEY ACT OF 2002

I, Sergio Ermotti, certify that:

1. I have reviewed this annual report on Form 20-F of UBS AG;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:
   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   c. Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   d. Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):
   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: February 28, 2020

/s/ Sergio Ermotti
Name: Sergio Ermotti
Title: President of the Executive Board

CERTIFICATION UNDER SECTION 302 OF THE
SARBANES-OXLEY ACT OF 2002

I, Kirt Gardner, certify that:

1. I have reviewed this annual report on Form 20-F of UBS Group AG;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:
    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    c. Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d. Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):
    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: February 28, 2020

_/s/ Kirt Gardner_________________
Name: Kirt Gardner
Title: Group Chief Financial Officer

CERTIFICATION UNDER SECTION 302 OF THE
SARBANES-OXLEY ACT OF 2002

I, Kirt Gardner, certify that:

1. I have reviewed this annual report on Form 20-F of UBS AG;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:
    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    c. Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d. Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):
    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: February 28, 2020

/s/ Kirt Gardner
Name: Kirt Gardner
Title: Chief Financial Officer

Exhibit 13

CERTIFICATION PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002
(Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code)

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, Chapter 63 of Title 18, United States Code), the undersigned officer of UBS Group AG, a Swiss corporation (the "Company"), hereby certifies, to such officer's knowledge, that:

The Annual Report on Form 20-F for the year ended December 31, 2019 (the "Report") of the Company fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. §§ 78m or 78o(d)) and information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 28, 2020

/s/ Sergio Ermotti
Name: Sergio Ermotti
Title: Group Chief Executive Officer

The foregoing certification is being furnished solely pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, Chapter 63 of Title 18, United States Code) and is not being filed as part of the Report or as a separate disclosure document.

CERTIFICATION PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002
(Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code)

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, Chapter 63 of Title 18, United States Code), the undersigned officer of UBS AG, a Swiss banking corporation (the "Company"), hereby certifies, to such officer's knowledge, that:

The Annual Report on Form 20-F for the year ended December 31, 2019 (the "Report") of the Company fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. §§ 78m or 78o(d)) and information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 28, 2020

/s/ Sergio Ermotti
Name: Sergio Ermotti
Title: President of the Executive Board

The foregoing certification is being furnished solely pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, Chapter 63 of Title 18, United States Code) and is not being filed as part of the Report or as a separate disclosure document.

CERTIFICATION PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002
(Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code)

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, Chapter 63 of Title 18, United States Code), the undersigned officer of UBS Group AG, a Swiss corporation (the "Company"), hereby certifies, to such officer's knowledge, that:

The Annual Report on Form 20-F for the year ended December 31, 2019 (the "Report") of the Company fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. §§ 78m or 78o(d)) and information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 28, 2020

/s/ Kirt Gardner
Name: Kirt Gardner
Title: Group Chief Financial Officer

The foregoing certification is being furnished solely pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, Chapter 63 of Title 18, United States Code) and is not being filed as part of the Report or as a separate disclosure document.

CERTIFICATION PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002
(Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code)

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, Chapter 63 of Title 18, United States Code), the undersigned officer of UBS AG, a Swiss banking corporation (the "Company"), hereby certifies, to such officer's knowledge, that:

The Annual Report on Form 20-F for the year ended December 31, 2019 (the "Report") of the Company fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. §§ 78m or 78o(d)) and information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 28, 2020

/s/ Kirt Gardner
Name: Kirt Gardner
Title: Chief Financial Officer

The foregoing certification is being furnished solely pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, Chapter 63 of Title 18, United States Code) and is not being filed as part of the Report or as a separate disclosure document.

Exhibit 15.1

Zurich, 28 February 2020

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in each of the following registration statements of UBS Group AG, UBS AG and their affiliates:

(1) on Form F-3 (Registration Number 333-225551), and each related prospectus currently outstanding under such registration statement,
(2) on Form F-4 (Registration Number 333-234705), and each related prospectus currently outstanding under such registration statement,
(3) on Form S-8 (Registration Numbers 333-200634; 333-200635; 333-200641; 333-200665; 333-215254; 333-215255; and 333-228653), and each related prospectus currently outstanding under any of the aforementioned registration statements,
(4) the base prospectus of Corporate Asset Backed Corporation (CABCO) dated 23 June 2004 (Registration Number 333-111572),
(5) the Form 8-K of CABCO dated 23 June 2004 (SEC FileNumber 001-13444), and
(6) the Prospectus Supplements relating to the CABCO Series 2004-101 Trust dated 10 May 2004 (Registration Number 033-91744) and 17 May 2004 (Registration Number 033-91744-05),

of our reports dated 27 February 2020, with respect to the consolidated financial statements of UBS Group AG and the effectiveness of internal control over financial reporting of UBS Group AG, included in this Annual Report (Form 20-F) for the year ended 31 December 2019, filed with the Securities and Exchange Commission.

Ernst & Young Ltd

/s/ Marie-Laure Delarue
Marie-Laure Delarue
Licensed Audit Expert

/s/ Ira S. Fitlin
Ira S. Fitlin
Certified Public Accountant (U.S.)

Exhibit 15.2

Zurich, 28 February 2020

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in each of the following registration statements of UBS Group AG, UBS AG and their affiliates:

(1) on Form F-3 (Registration Number 333-225551), and each related prospectus currently outstanding under such registration statement,
(2) on Form F-4 (Registration Number 333-234705), and each related prospectus currently outstanding under such registration statement,
(3) on Form S-8 (Registration Numbers 333-200634; 333-200635; 333-200641; 333-200665; 333-215254; 333-215255; and 333-228653), and each related prospectus currently outstanding under any of the aforementioned registration statements,
(4) the base prospectus of Corporate Asset Backed Corporation (CABCO) dated 23 June 2004 (Registration Number 333-111572),
(5) the Form 8-K of CABCO dated 23 June 2004 (SEC FileNumber 001-13444), and
(6) the Prospectus Supplements relating to the CABCO Series 2004-101 Trust dated 10 May 2004 (Registration Number 033-91744) and 17 May 2004 (Registration Number 033-91744-05),

of our reports dated 27 February 2020, with respect to the consolidated financial statements of UBS AG and the effectiveness of internal control over financial reporting of UBS AG, included in this Annual Report (Form 20-F) for the year ended 31 December 2019, filed with the Securities and Exchange Commission.

Ernst & Young Ltd

/s/ Marie-Laure Delarue
Marie-Laure Delarue
Licensed Audit Expert

/s/ Ira S. Fitlin
Ira S. Fitlin
Certified Public Accountant (U.S.)