Japanese Government Bond Futures & Options

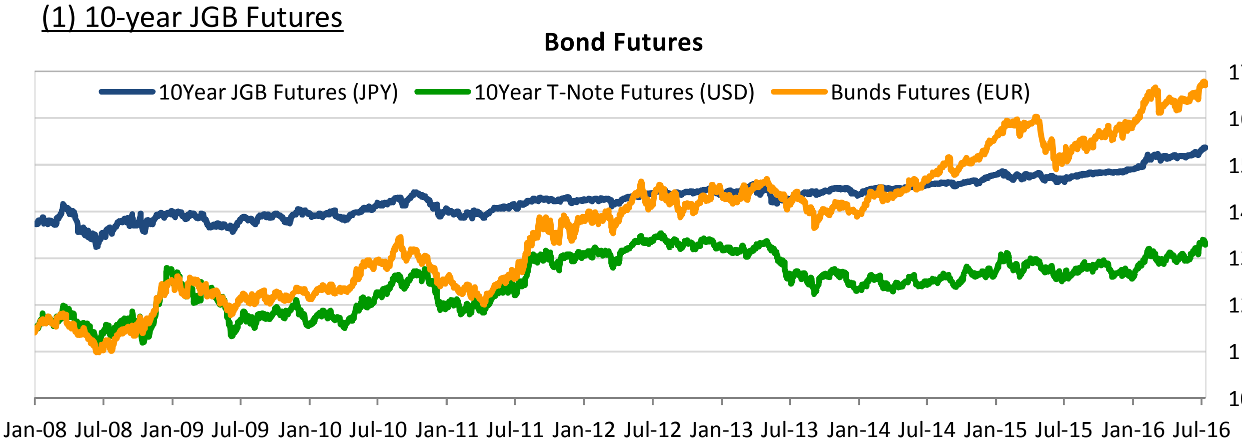
July, 2016

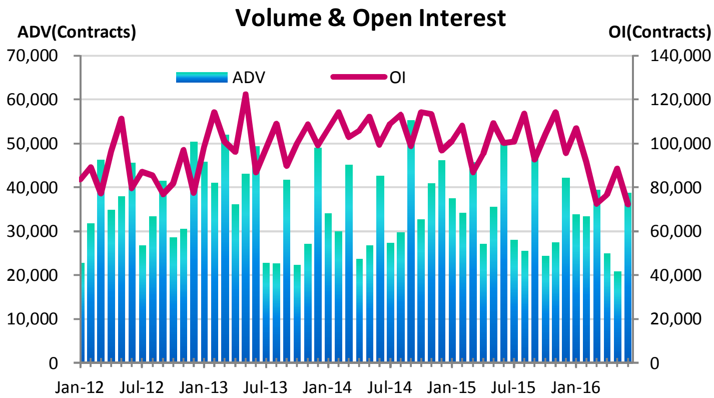
Brief Overview

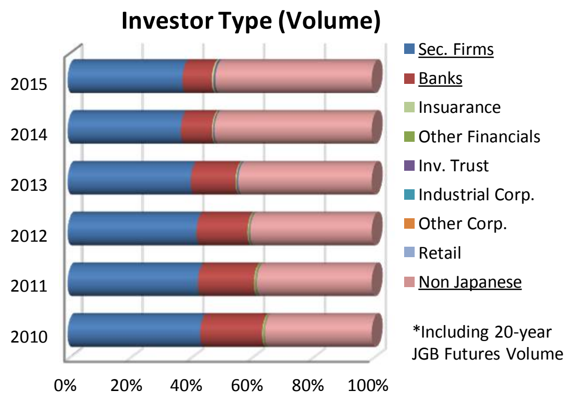
- The **indicator of the Japanese Yen interest rate market**, and one of the most liquid interest rate markets in the world.
- Trading is available from **8:45 am** to **5:30am** (JST). **Trading hours(Total 21 hours) covers major global markets**.
- **10-year JGB Futures** and **20-year JGB Futures** are listed.
- Not only physical delivery products, but a **mini-sized cash settled** contract is also available.
- By using **Options on JGB Futures**, it is possible to invest in volatility of JGB Futures and build a variety of strategies.

Market Information

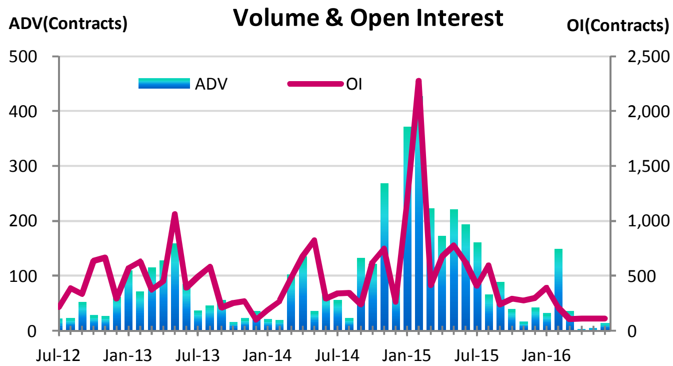
(1) 10-year JGB Futures







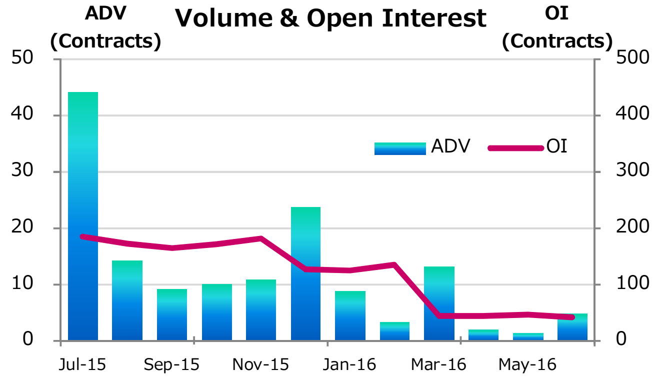
(2) mini JGB Futures

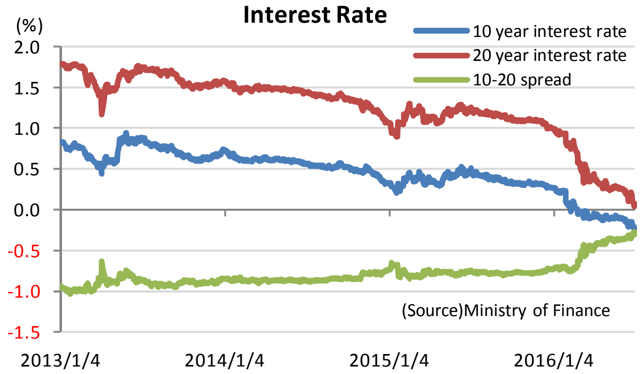


Mini Futures

- One-tenth size
- Cash settlement
- Quoted continuously by market makers.
- Used by asset management firm to adjust the position precisely.
- Individuals also use mini JGB Futures.

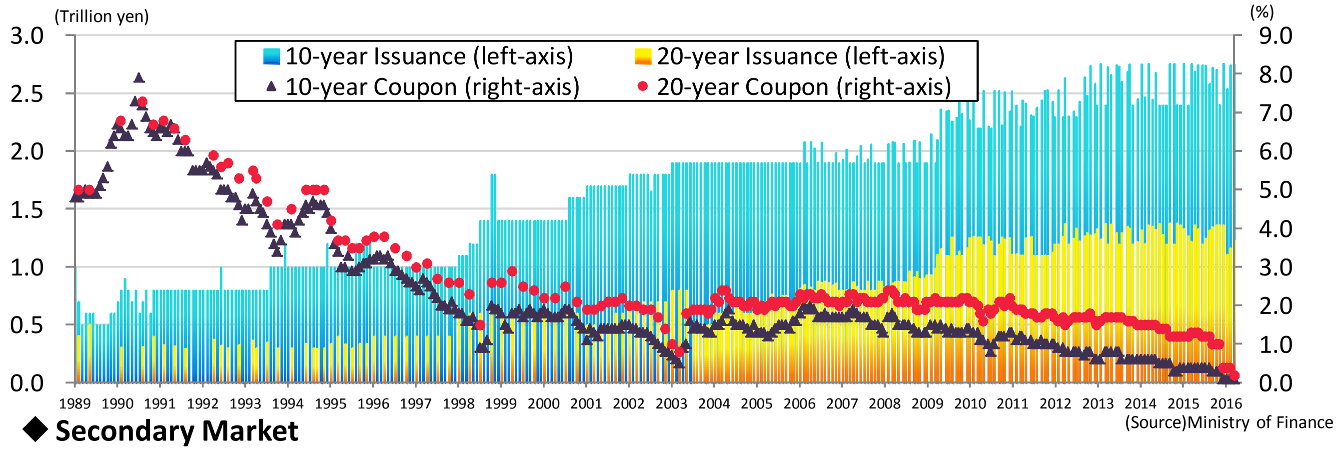
(3)20-year JGB Futures





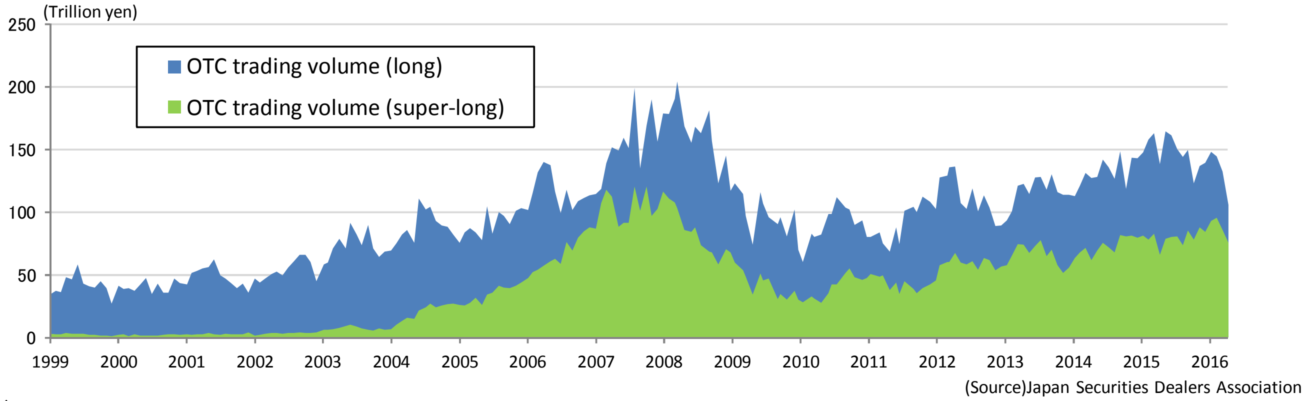
◆ Primary Market (10Y JGB,20Y JGB)

Since Oct. 2003, 20-year JGBs are issued monthly.



◆ Secondary Market

In FY 2015, over-the-counter trading of super-long-term JGBs is around ¥70-90 trillion per month, which is more than half of the over-the-counter trading volume of long-term JGBs.

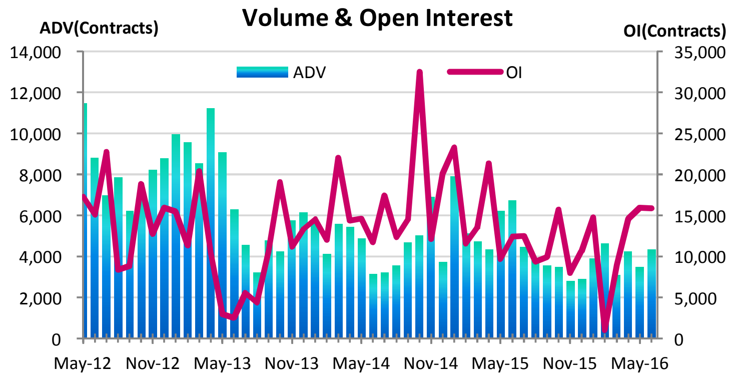


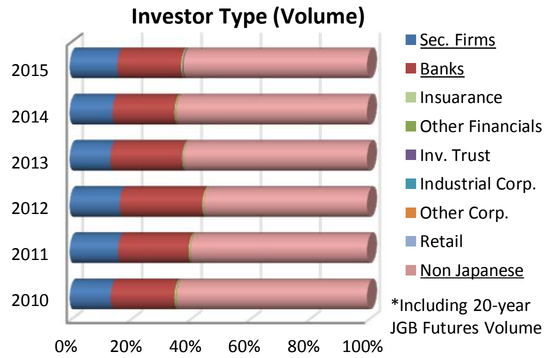
◆ Trading Volume by Investor Category

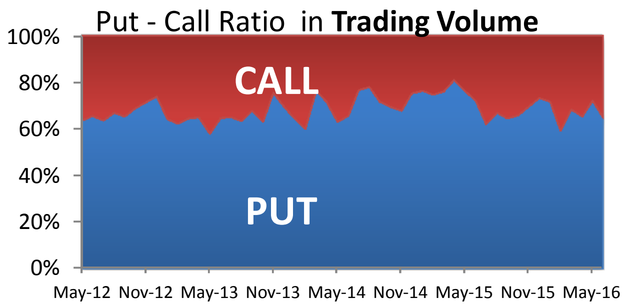
Banks occupy about 13% share in the long-term JGB market, and their share in the super-long-term JGB market is about 11%.

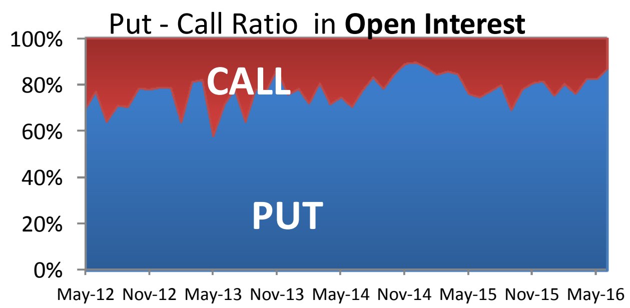
Super Long & Long-Term JGB Traded Volume by Type of Investors(2015)

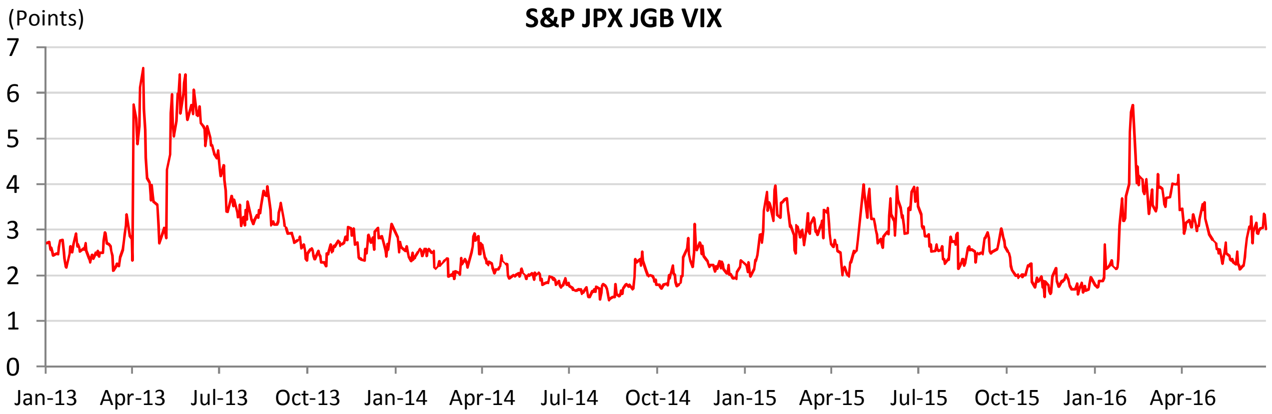
(3) Options on JGB Futures











Trading Volume on Strike Prices

After BOJ decided to introduce negative interest rate(Jan 29, 2016), trading volume of deep-out and deep-in contracts has increased.

PUT									OTM									ATM				ITM		
	-18	-17	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Jan-13	0	0	0	0	0	20	0	10	272	618	734	1486	1952	3473	5377	16560	29658	41639	19224	512	10	6	0	1	1
Feb-13	0	0	0	0	0	1	11	17	9	81	805	581	833	1317	5120	13467	25649	43650	20517	1042	59	38	0	0	0
Mar-13	0	0	1	2	2	40	21	79	87	344	890	1308	2011	5897	9071	13453	27434	28809	19901	522	0	0	0	0	0
Apr-13	0	0	0	170	0	131	15	242	401	1292	1220	2532	6515	5694	10809	24299	29700	29996	19185	9297	6330	4085	1452	124	0
May-13	0	0	0	0	12	5	38	429	959	1665	1966	2981	2785	8286	12864	14716	17216	21693	11576	6958	4308	738	915	422	240
Jun-13	0	0	0	0	0	994	1019	835	1448	2450	2431	2053	5216	6411	8957	10039	13458	12920	10685	2864	230	0	0	0	0
Jul-13	0	0	0	0	19	99	71	254	395	646	823	2209	2063	2680	5396	7970	12681	19253	9981	715	2	0	0	0	0
Aug-13	0	0	0	0	10	80	241	170	70	540	517	800	1512	1859	3407	6243	11132	12214	6017	116	0	0	0	0	0
Sep-13	0	0	1	0	1	67	19	144	691	632	1434	1336	1731	2912	4755	9139	13014	14961	10485	181	5	0	0	0	0
Oct-13	23	54	0	0	0	0	1	3	9	9	221	1006	1149	5840	6041	8083	11294	17283	8232	14	0	0	0	0	0
Nov-13	0	0	0	0	6	0	0	193	3	101	385	1403	2403	3196	8209	16051	15803	25064	14031	729	0	0	0	0	0
Dec-13	0	0	0	0	0	60	0	2	329	665	799	645	3020	1249	4060	9522	15941	24705	22122	2034	127	0	0	0	0
Jan-14	0	0	0	0	1	75	9	195	604	782	212	857	1104	2765	5922	5464	14847	19688	17096	267	0	0	0	0	0
Feb-14	0	0	0	0	7	0	0	98	26	224	481	375	719	965	3073	6199	9735	16149	9343	28	0	0	0	0	0
Mar-14	0	0	0	0	80	0	1	6	367	304	142	955	1727	2469	4734	10770	20312	27369	14650	1540	10	15	0	0	0
Apr-14	0	0	0	0	53	7	7	244	407	813	614	1218	630	896	4110	12825	18349	27710	13808	105	3	0	0	0	0
May-14	0	0	0	0	22	0	0	42	100	842	82	925	1983	1360	2943	4860	8009	19488	20388	574	10	0	0	0	0
Jun-14	0	0	0	0	0	0	90	115	101	301	736	753	654	1142	2061	2965	6946	12899	14723	236	10	0	0	0	0
Jul-14	0	0	0	0	0	0	46	899	170	169	1171	963	480	1646	4771	5363	10597	20489	7381	56	0	0	0	0	0
Aug-14	0	0	0	0	0	92	2120	342	155	150	50	50	301	962	7442	4118	8656	18259	15417	186	0	0	0	0	0
Sep-14	0	0	0	0	0	101	1724	1998	170	10	483	400	743	1570	3981	7254	12681	27395	8513	283	2	0	0	0	0
Oct-14	0	0	0	0	1	102	24	229	10	123	1522	2218	1152	5337	8637	7288	15516	23030	11789	199	64	0	0	0	0
Nov-14	0	0	0	0	2	12	226	147	56	389	2944	5997	4215	3433	9314	9816	18540	20481	8569	260	31	0	0	0	0
Dec-14	0	0	0	23	40	112	50	544	77	2005	1973	4285	3358	4099	4074	4089	9559	16097	8987	185	0	0	0	0	0
Jan-15	0	2	152	50	280	30	40	50	756	2300	1825	6656	9245	13509	5462	9166	20274	28884	12466	3379	149	42	0	0	0
Feb-15	0	0	0	0	0	0	10	64	484	3241	3227	1040	6389	9930	11417	5386	8357	14783	6903	1009	529	7	2	0	0
Mar-15	0	0	0	0	0	26	127	238	5472	2135	2613	2316	4434	6263	11576	7101	10774	18718	6836	939	129	7	0	0	0
Apr-15	0	0	0	0	0	21	131	7	1225	4403	1752	3782	12552	5451	9262	6981	10967	12017	5419	151	20	0	0	0	0
May-15	0	0	0	0	0	0	0	113	626	675	1078	5823	4492	7687	13095	11687	14039	15222	10579	418	18	2	0	0	0
Jun-15	0	0	0	0	0	0	87	355	3194	6977	5590	4136	4335	5415	11198	11435	16565	23554	12861	1226	56	0	0	0	0
Jul-15	0	0	0	0	0	98	5	513	569	3403	674	1020	1871	3854	7909	9386	10037	14450	7324	138	10	0	0	0	0
Aug-15	0	0	0	0	2	3	0	1095	1015	536	597	71	1328	2477	6458	4854	9972	17510	8201	99	0	0	0	0	0
Sep-15	0	0	1	1	0	0	46	421	1099	966	1536	468	971	1853	3512	4391	8534	13943	5751	55	0	0	0	0	0
Oct-15	0	74	0	28	0	9	300	452	736	859	817	1703	364	1195	1414	6465	9632	18832	5697	64	0	0	0	0	0
Nov-15	0	0	0	0	0	0	0	0	227	312	370	1215	1217	80	1484	2611	5215	14022	10838	61	30	0	0	0	0
Dec-15	0	0	0	0	0	0	2	26	116	218	457	1140	1170	1918	6078	4437	7831	14071	7518	39	0	0	0	0	0
Jan-16	0	0	0	0	1	45	286	534	430	347	846	1732	3316	3027	3198	5117	9637	16119	8535	53	0	0	0	0	0
Feb-16	0	0	0	2	0	63	437	2061	638	738	1348	1465	3414	5915	5851	7066	11462	8261	4910	1082	78	0	0	0	0
Mar-16	1	0	65	0	5	13	673	1560	768	918	1369	1641	2746	4924	4924	7161	7187	8424	4273	275	12	0	0	0	0
Apr-16	0	69	138	371	272	396	435	1369	1373	1454	2437	2281	1269	5818	6714	4521	9106	11299	5861	286	0	0	0	0	0
May-16	403	0	10	51	310	201	31	4752	414	1346	636	738	2237	5320	4364	4476	7987	11008	3806	124	0	0	0	0	0
Jun-16	0	0	0	0	0	0	35	2918	1030	1262	1799	5577	2040	3281	2884	6329	11702	16797	6310	142	0	0	0	0	0

					OTM							ATM				ITM			CALL
-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	
100	0	0	0	0	0	0	74	0	631	4690	19761	35617	7068	269	3	0	0	0	Jan-13
0	0	0	0	0	0	0	400	100	1338	6949	25120	29205	5047	423	10	0	0	0	Feb-13
0	0	0	0	0	0	0	50	60	1106	7356	25846	20197	4812	1559	30	0	0	0	Mar-13
0	0	0	0	278	950	3617	6602	8180	9981	16465	18694	14665	2962	406	241	0	0	0	Apr-13
0	0	0	25	131	346	1662	3104	10325	13174	16245	19550	11186	3930	898	46	0	0	0	May-13
0	0	0	0	1	2	69	313	2456	6489	10009	13440	6163	3181	2563	50	0	0	0	Jun-13
0	0	0	0	0	0	0	42	494	1722	5561	12919	10371	3521	652	0	20	0	0	Jul-13
0	0	0	0	0	0	0	0	9	648	3629	9490	10118	2030	218	0	0	0	1	Aug-13
0	0	0	0	0	0	0	50	155	1773	4435	12364	9064	1203	305	0	0	0	0	Sep-13
0	0	0	0	0	0	0	0	0	247	3017	10991	17605	2541	190	0	0	0	0	Oct-13
0	0	0	0	0	0	0	0	0	330	2394	8233	15003	2407	8	0	0	0	0	Nov-13
0	0	0	0	0	0	0	0	32	703	5860	18842	12222	208	0	0	0	0	0	Dec-13
0	0	0	0	0	0	0	0	63	754	3202	14796	15846	4161	195	0	0	0	0	Jan-14
0	0	0	0	0	0	0	0	0	28	1408	10101	18965	978	0	0	0	0	0	Feb-14
0	0	0	0	0	0	0	0	19	117	1074	10667	13759	1047	1	0	0	0	0	Mar-14
0	0	0	0	0	0	0	0	0	18	1295	9106	21262	735	23	1	0	0	0	Apr-14
0	0	0	0	0	0	0	0	0	22	1274	12142	20888	1765	38	0	0	0	0	May-14
0	0	0	0	0	0	0	0	0	152	1644	7950	12128	1067	15	11	2	0	0	Jun-14
0	0	0	0	0	0	0	0	0	0	292	3679	11077	1552	11	0	0	0	0	Jul-14
0	0	0	0	0	0	0	500	0	155	323	6533	8438	649	15	0	0	0	0	Aug-14
0	0	0	0	0	0	0	0	0	28	1547	9751	13901	1466	151	4	0	0	0	Sep-14
0	0	0	0	0	0	0	0	0	239	2370	11958	17773	1576	57	3	0	0	0	Oct-14
0	0	0	0	0	0	0	0	0	375	3316	17405	15282	3433	415	0	0	0	0	Nov-14
0	0	0	0	0	0	0	42	176	358	2359	9457	5335	1891	143	10	0	0	0	Dec-14
0	0	0	0	0	0	0	85	206	1512	7196	14482	11138	1141	107	13	20	0	0	Jan-15
0	0	0	0	0	50	11	0	1675	1802	5501	6773	7743	945	238	0	0	0	0	Feb-15
0	0	0	0	0	0	1	165	237	1657	3717	9369	8261	1310	225	22	11	11	0	Mar-15
0	0	0	0	0	0	0	0	23	621	3076	6944	6303	499	20	0	0	0	0	Apr-15
0	0	0	0	0	0	0	0	797	1569	5453	9312	8133	1124	100	10	0	0	0	May-15
0	0	0	0	0	51	59	99	945	3324	7902	14717	13026	1912	110	0	0	0	0	Jun-15
0	0	0	0	0	0	0	21	41	1195	5998	12229	14972	3058	160	0	11	0	0	Jul-15
0	0	0	0	0	0	0	3	100	99	1509	8114	16192	961	0	0	0	0	0	Aug-15
0	0	4	0	0	0	0	10	64	487	2474	10383	9687	1055	45	0	0	0	0	Sep-15
0	0	0	0	0	0	0	0	200	495	1749	8862	13114	811	0	0	0	0	0	Oct-15
0	0	0	0	0	0	0	0	0	1134	4223	10840	116	0	0	0	0	0	0	Nov-15
0	0	0	0	0	0	0	0	0	1327	3851	10294	842	10	0	0	0	0	0	Dec-15
0	0	0	0	0	0	0	5	12	771	1064	7014	8946	2603	653	0	0	0	0	Jan-16
0	2	20	25	91	193	280	631	1537	3016	5140	10393	12056	2203	1223	588	116	209	0	Feb-16
0	0	0	0	0	10	126	198	1313	3207	5434	6113	4613	637	11	0	0	0	0	Mar-16
0	0	0	35	50	28	52	440	1073	2808	7991	10006	6928	220	0	0	0	0	0	Apr-16
0	0	0	0	0	115	50	64	639	733	2767	5731	8057	441	0	0	0	0	0	May-16
0	0	7	10	0	28	184	467	1428	2744	7452	10214	9881	1415	131	0	0	0	0	Jun-16

Contract Specifications

◆ JGB Futures

	10-year JGB futures	Mini JGB futures	20-year JGB futures
Underlyings	Standardized 6%, 10-year JGB	Standardized 6%, 10-year JGB	Standardized 3%, 20-year JGB
Trading Hours	[Morning session] Open: 8:45 am, Regular session: 8:45 am – 11:00 am, Close: 11:02 am [Afternoon session] Open: 12:30 pm, Regular session: 12:30 pm – 3:00 pm, Close: 3:02 pm [Night session(T+1)] Open: 3:30 pm, Regular session: 3:30 pm – 5:25 am, Close: 5:30 am		
Contract Months	3 contract months (Mar., Jun., Sep. and Dec. contract Cycle)		
Last Trading Day	**5th business day** prior to the 20th of contract month	**6th business day** prior to the 20th of contract month	**5th business day** prior to the 20th of contract month
Contract Value	**¥100 million (FV)**	**¥10million (FV)**	**¥100 million (FV)**
Tick Size	**¥0.01 per FV ¥100**	**¥0.005 per FV ¥100**	**¥0.01 per FV ¥100**
Price Limit	Normal:+/- ¥2.00 Expansion:+/- ¥3.00	Normal:+/- ¥2.00 Expansion:+/- ¥3.00	Normal:+/- ¥4.00 Expansion:+/- ¥6.00
Strategy Trading	Available. Implied function does **NOT** work.		
Final Settlement	Physical Delivery	**Cash settled** by large JGB Opening price on last trading day	All positions are transferred to TSE at settlement price every TSE business day.
J-NET (off-auction): Trading Hours	8:20 am - 3:15 pm, (T+1)3:25 pm – 5:30 am		
J-NET (off-auction): Tick Size	¥0.0001		
J-NET (off-auction): Price Range	The DCB reference price(Last price for 10-year JGB Futures and Last BBO mid-price for mini JGB Futures and 20-year JGB Futures) +/- 0.5% of the base price for the daily price limits of the issue		
J-NET (off-auction): Min. Unit	1 contract		
Give Up	Available		
Position Limit	NOT Applicable. But Large Position Report is required when net position exceeds a certain amount.	NOT Applicable.	NOT Applicable. But Large Position Report is required when net position exceeds a certain amount.
Initial Margin (as of 15 July, 2016)	¥720,000	¥72,000	¥2,720,000
Exchange fees	¥95 per contract (+clearing fee ¥49 per contract is charged.)	¥20 per contract (+clearing fee ¥5 per contract is charged.)	¥95 per contract (+clearing fee ¥49 per contract is charged.)
Bloomberg Reuters	JBA<Comdty> 0#JGB:	MJBA<Comdty> 0#JMB:	JJAA<Comdty> 0#JTB:

◆ Options on JGB Futures

Trading Hours	[Morning session] Open: 8:45 am, Regular session: 8:45 am – 11:00 am, Close: 11:02 am [Afternoon session] Open: 12:30 pm, Regular session: 12:30 pm – 3:00 pm, Close: 3:02 pm [Night session(T+1)] Open: 3:30 pm, Regular session: 3:30 pm – 5:25 am, Close: 5:30 am
Contract Months	2 closest quarterly months (Mar, Jun, Sep, Dec) and 1 or 2 closest serial months (Trading period is 6 months for quarterly contract months, and 2 months for serial contract months.)
Last Trading Day	The last business day of the month prior to the option contract month
Exercise Period	Any trading day (American type option)
Strike Price	ATM +/- 10 strikes with ¥0.5 intervals. (Minimum 21 strikes) Additional strikes will be set in conjunction with the underlying fluctuation. *All options series are available on website. http://www.jpx.co.jp/english/markets/derivatives/jnet-derivative/index.html
Trading Unit	1 contract of large JGB futures (FV 100 million)
Tick Size	¥0.01 per FV ¥100
Strategy Trading	Available. Implied function is working between single contract and strategy contract.
Final Settlement	10-year JGB futures trade is carried out at 3:15 pm (market close) on exercise day.
J-NET (off-auction)	Available. (Trading Hours: 8:20 am - 3:15 pm, (T+1)3:25 pm – 5:30 am Tick size: ¥0.0001, Minimum trading unit: 1 contract)
Give up	Available.
Position limit	NOT Applicable. But Large Position Report is required when net position exceed a certain amount.
Exchange Fees	40 JPY per contract (+clearing fee ¥10 per contract is charged.)
Bloomberg	JBA <Comdty> OMON — Reuters: 0#JGB++

Osaka Exchange, Inc.

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