

Outlook for 20Y JGB Auction

Smooth sale expected around 0.35%

- ✓ Smooth auction anticipated partly on the back of expectations on investor demand
- ✓ We would like to place our bids, expecting the 20Y JGB yield to move in a range around 0.35% until the next 20Y JGB auction in June
- ✓ Given the near-term schedule for MOF supplies/BOJ purchases, we can think of switching out from 30Y or 40Y

Strategic Memorandum DSTE381
FICC Research Dept.

Senior JGB Strategist
Keiko Onogi
+813 5555 8788
keiko.onogi@daiwa.co.jp
Daiwa Securities Co. Ltd.

Auction Details

Auction Date: May 20, 2020
Issue Date: May 21, 2020
Maturity Date: March 20, 2040
Offering Amount: About 900 billion yen

* New 20Y JGBs will likely be the first reopening of JL172 carrying a 0.4% coupon.

** On May 19, JL172 traded at 0.345-0.350% (+0.5 - +1.0bp v. previous day's close) and closed at 0.345% (+0.5bp).

Exp. Rating on Auction Results

1	2	3	4	5
Failed	Poor	Average	Good	Outstanding

Tomorrow's auction is likely to be held at the highest yield level since the auction in May 2019

After the previous 20Y JGB auction went smoothly at the 0.335-0.340% level (vs. WI closed at 0.355% on the previous day), the JGB market firmed up partly because the BOJ decided to take additional monetary easing steps via measures such as "further active purchases of JGBs" (on Apr 27). The 20Y JGB yield (conventional yield of JL172) also declined to 0.290% at one point on an intraday basis. While the US market posted higher stock price/lower bond price trends in early May, the JGB market also softened and the 20Y JGB yield temporarily rose to 0.345% on May 11. Since then, the yield has been largely moving in the 0.325-0.345% range. As of 14:00 today (May 19), it momentarily rose to 0.350% (+1.0bp vs. previous day's close). The possibility is increasing that tomorrow's auction will be held at the highest yield level since the auction in May 2019.

Bidding in a pragmatic way

Let's check the environment surrounding the JGB market. In the evening on May 14, the Japanese government decided to lift its state of emergency for 39 prefectures. Following Europe and the US, Japan is also gradually resuming the social and economic activity that had been shut down because of the Covid-19 pandemic. As caution about the second wave of infections remains strong, however, it is difficult for market participants to become completely optimistic about a V-shaped economic recovery. Amid strong worries about the economic outlook, the government/ruling parties have started to compile another supplementary budget for FY20 to fund additional economic measures. As it is unclear at this point how much the FILP plan will increase, we need to watch closely the course of

discussions within the government and the ruling parties that is likely to unfold this week. However, there is a great possibility that the calendar-based market issuance will increase substantially again starting as early as July. In such an environment, key points to think about the bidding stance at tomorrow's auction are as follows:

Decent demand is expected from investors: As mentioned above, the possibility is increasing that tomorrow's auction will be held at the bidding yield level since the auction in May 2019. Amid low liquidity in the secondary market, we expect decent demand from investors because (1) they can buy in a relatively good size at the auction and (2) the next 20Y JGB auction is scheduled for June 25, more than one month from tomorrow;

Not noticeably overvalued in terms of the relative value: Our analysis based on data since the previous 20Y JGB auction shows that the 20Y sector is moderately cheap against the 5Y, 7Y, 10-11Y, and 19Y sectors (Appendix 3). Meanwhile, the 20Y sector is slightly overvalued vs. the 40Y sector (Appendix 3). As 20Y asset swaps have recently been tightening, 20Y cash is cheap against swaps at the current level (Appendix 4);

The pace of BOJ purchases is unchanged: As the BOJ took additional monetary easing steps via measures such as "further active purchases of JGBs," it increased the monthly JGB purchase amount from May. However, the offer amount in the over 10Y zone has been unchanged from that in March;

An increase in the issuance amount related to the second supplementary budget may be limited: In line with the compilation of the second supplementary budget, the calendar-based JGB market issuance will increase substantially from July. At this time, the size of the additional economic measures is unclear, but there is a possibility that the calendar-based market issuance will increase on par with the increase from the first supplementary budget. As the economic measures are formulated to address the damages from the COVID-19 pandemic, the increase in calendar-based market issuance will likely be concentrated in short-term to intermediate bonds. Regarding 20Y JGBs, we expect the issuance amount to be increased by 100bn yen to 1.1tn yen from 1.1tn yen, the scheduled amount from July after the first supplementary budget;

A wave of supplies expected around the long end of the curve until 30Y JGB auction on June 4: Starting from the 30Y JGB auction on May 14, concentrated supplies are scheduled in the superlong zone for about three weeks, such as tomorrow's 20Y JGB auction, a 40Y JGB auction on May 26, and a 30Y JGB auction on June 4. During that period, the BOJ's JGB purchase operations in the over 10Y zone may be conducted only one time—i.e., the operation in the 10-25Y zone scheduled for May 29. In addition, the BOJ is likely to keep JS172 out from its JGB purchase list. Caution thus remains about performance in the secondary market.

Bidding with a near-term range centered at 0.35% in mind

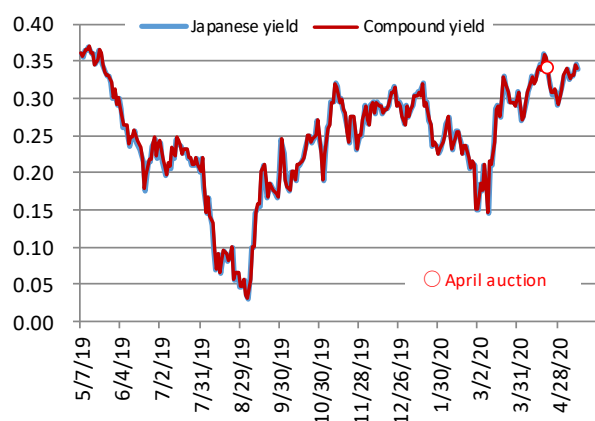
All in all, we would like to think about our bidding stance at tomorrow's auction, assuming that the 20Y JGB yield may move in a range centered at around 0.35% until the next 20Y JGB auction (Jun 25). Given the near-term schedule for the MOF issuance/BOJ purchases, we can think of switching out from 30Y or 40Y.

20Y JGB Auction Results

Auction Date	Issue #	Coupon (%)	Maturity Date	Issue Size (billion yen)	B/C	Average Accepted Price (Yen)	Lowest Accepted Price (Yen)	Tail (Yen)	Average Accepted Yield (%)	Highest Accepted Yield (%)	Tail (%)	Allotment (%)	Rating
5/20/20	172R	0.4	3/20/40	900*									
4/21/20	172	0.4	3/20/40	899.4	3.58	101.21	101.10	0.11	0.335	0.340	0.005	16.5349	Avg
3/12/20	171R	0.3	12/20/39	963.5	3.69	100.98	100.90	0.08	0.248	0.252	0.004	97.2897	Good
2/20/20	171R	0.3	12/20/39	969.8	3.99	101.27	101.25	0.02	0.232	0.234	0.002	81.9560	Good
1/17/20	171	0.3	12/20/39	899.1	3.83	99.99	99.90	0.09	0.300	0.305	0.005	93.4722	Good
12/17/19	170R	0.3	9/20/39	1,027.5	4.10	100.25	100.20	0.05	0.286	0.289	0.003	30.5611	Good
11/20/19	170R	0.3	9/20/39	1,032.8	4.21	100.63	100.60	0.03	0.266	0.268	0.002	43.6701	Good
10/24/19	170	0.3	9/20/39	899.3	3.91	101.04	100.95	0.09	0.245	0.249	0.004	57.2532	Avg
9/18/19	169R	0.3	6/20/39	949.3	3.48	101.79	101.70	0.09	0.205	0.210	0.005	20.3703	Good
8/20/19	169R	0.3	6/20/39	1,018.7	3.81	103.67	103.60	0.07	0.110	0.114	0.004	32.8061	Avg
7/17/19	169	0.3	6/20/39	1,018.1	4.89	100.96	100.95	0.01	0.249	0.249	0.000	84.8219	Good
6/25/19	168R	0.4	3/20/39	1,017.0	4.08	103.63	103.55	0.08	0.208	0.212	0.004	25.6662	Avg
5/22/19	168R	0.4	3/20/39	1,007.2	5.47	100.75	100.70	0.05	0.359	0.362	0.003	23.4032	Good
4/16/19	168	0.4	3/20/39	989.4	5.10	100.63	100.60	0.03	0.366	0.367	0.001	47.1709	Good

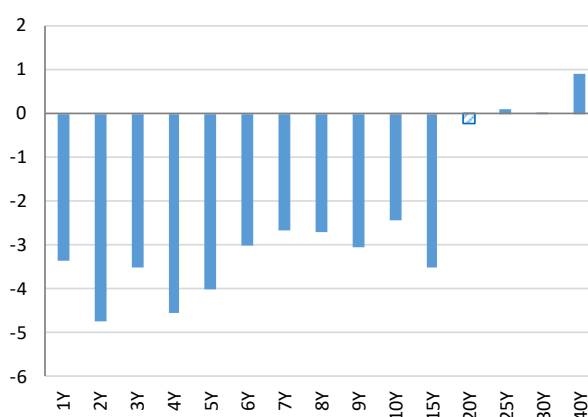
*Amount the Ministry of Finance plans to issue
 Source: Ministry of Finance (MOF), Daiwa Securities.

Appendix 1: 20Y JGB Yield (%)



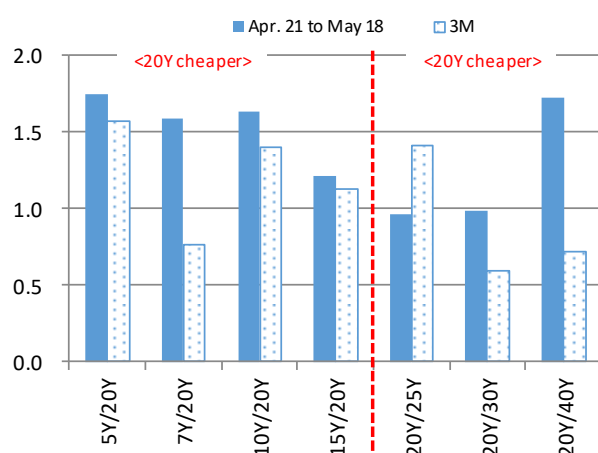
Source: Daiwa Securities.

Appendix 2: JGB Yield Change (bp): Apr. 21 v. May 18



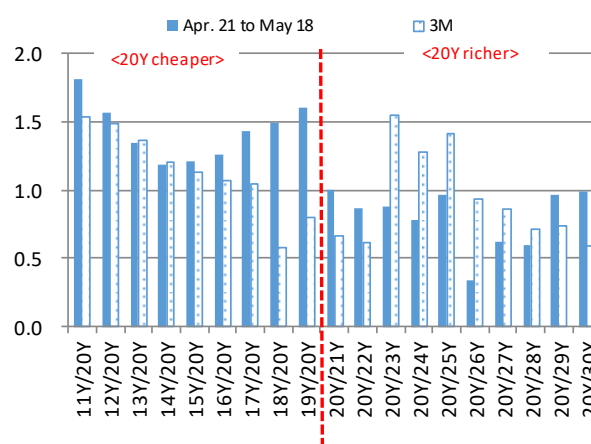
Source: Daiwa Securities.

Appendix 3a: Z-score I

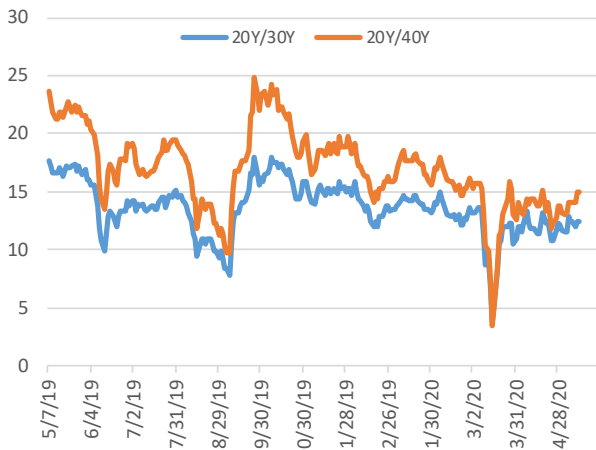


Source: Daiwa Securities.

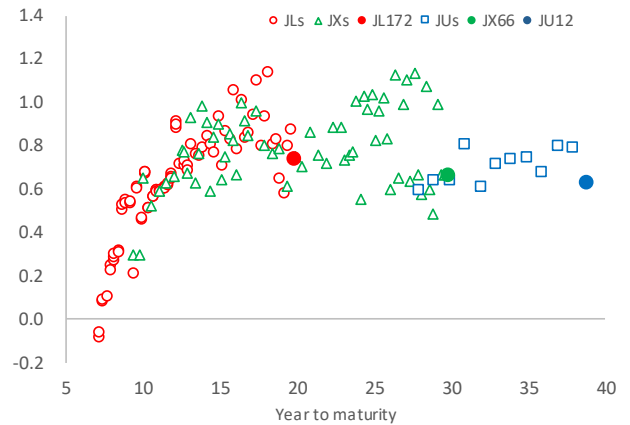
Appendix 3b: Z-score II



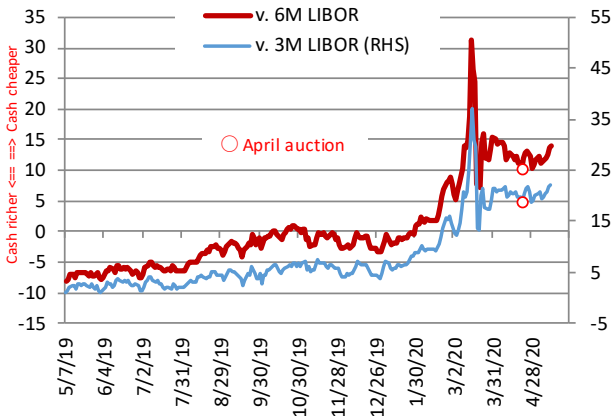
Source: Daiwa Securities.

Appendix 4: JGB 20Y/30Y and 20Y/40Y Spreads (bp)


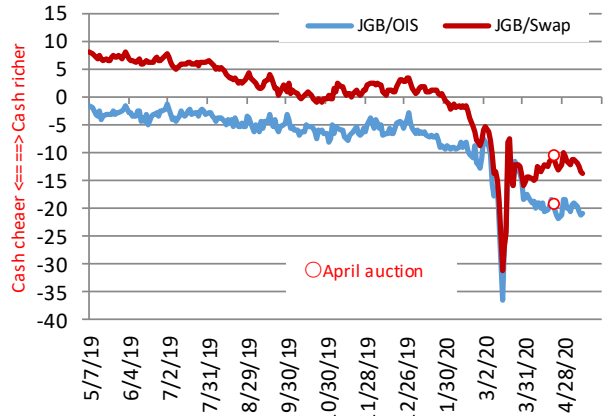
Note: On-the-run issue basis
Source: Daiwa Securities.

Appendix 5: JGB Total Return Curve (3M, %)


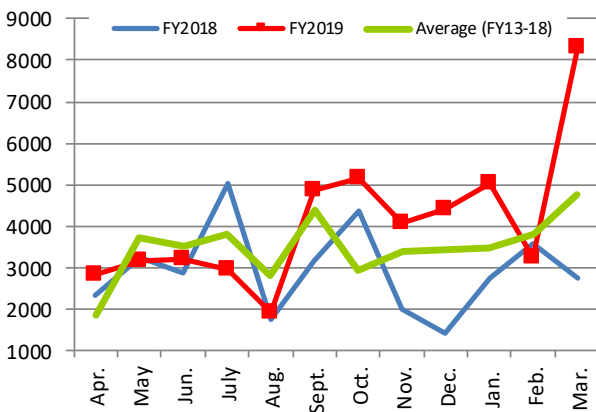
Note: Based on the May-18 JGB yield curve; factoring in roll-down effect etc.
Source: Daiwa Securities.

Appendix 6a: 20Y JGB Asset Swap Spread (bp)


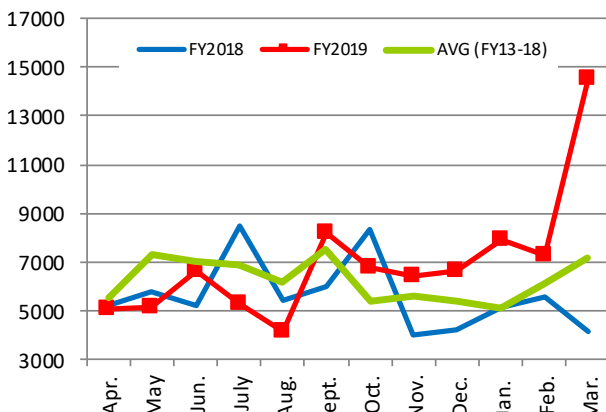
Source: Daiwa Securities.

Appendix 6b: 20Y JGB/Swap and JGB/OIS Spreads (bp)


Source: Daiwa Securities.

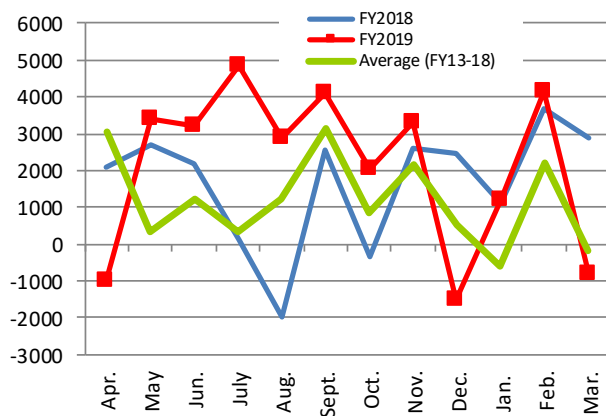
Appendix 7a: Trend of Life and Non-life Insurers' Net Purchase of Superlong JGBs (Yen 100M)


Source: JSDA

Appendix 7b: Trend of Life and Non-life Insurers' Gross Purchase of Superlong JGBs (Yen 100M)


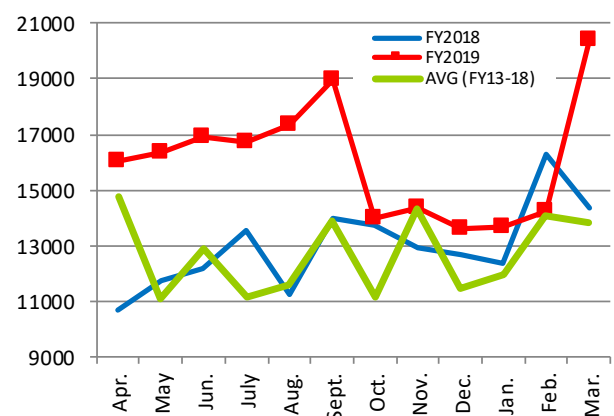
Source: JSDA

Appendix 8a: Trend of Overseas Accounts' Net Purchase of Superlong JGBs (Yen 100M)



Source: JSDA

Appendix 8b: Trend of Overseas Accounts' Gross Purchase of Superlong JGBs (Yen 100M)



Source: JSDA

Explanatory Document of Unregistered Credit Ratings

In order to ensure the fairness and transparency in the markets, Credit Rating Agencies became subject to the Credit Rating Agencies' registration system based on the Financial Instruments and Exchange Act. In accordance with this Act, in soliciting customers, Financial Instruments Business Operators, etc. shall not use the credit ratings provided by unregistered Credit Rating Agencies without informing customers of the fact that those Credit Rating Agencies are not registered, and shall also inform customers of the significance and limitations of credit ratings, etc.

■ The Significance of Registration

Registered Credit Rating Agencies are subject to the following regulations:

- 1) Duty of good faith.
- 2) Establishment of control systems (fairness of the rating process, and prevention of conflicts of interest, etc.).
- 3) Prohibition of the ratings in cases where Credit Rating Agencies have a close relationship with the issuers of the financial instruments to be rated, etc.
- 4) Duty to disclose information (preparation and publication of rating policies, etc. and public disclosure of explanatory documents).

In addition to the above, Registered Credit Rating Agencies are subject to the supervision of the Financial Services Agency ("FSA"), and as such may be ordered to produce reports, be subject to on-site inspection, and be ordered to improve business operations, whereas unregistered Credit Rating Agencies are free from such regulations and supervision.

■ Credit Rating Agencies

[Standard & Poor's]

The Name of the Credit Rating Agencies group, etc

The name of the Credit Rating Agencies group: S&P Global Ratings ("Standard & Poor's")

The name and registration number of the Registered Credit Rating Agency in the group: S&P Global Ratings Japan Inc. (FSA commissioner (Rating) No.5)

How to acquire information related to an outline of the rating policies and methods adopted by the person who determines Credit Ratings

The information is posted under "Unregistered Rating Information" (<http://www.standardandpoors.co.jp/unregistered>) in the "Library and Regulations" section on the website of S&P Global Ratings Japan Inc. (<http://www.standardandpoors.co.jp>)

Assumptions, Significance and Limitations of Credit Ratings

Credit ratings assigned by Standard & Poor's are statements of opinion on the future credit quality of specific issuers or issues as of the date they are expressed and they are not indexes which show the probability of the occurrence of the failure to pay by the issuer or a specific debt and do not guarantee creditworthiness. Credit ratings are not a recommendation to purchase, sell or hold any securities, or a statement of market liquidity or prices in the secondary market of any issues.

Credit ratings may change depending on various factors, including issuers' performance, changes in external environment, performance of underlying assets, creditworthiness of counterparties and others. Standard & Poor's conducts rating analysis based on information it believes to be provided by the reliable source and assigns credit ratings only when it believes there is enough information in terms of quality and quantity to make a conclusion. However, Standard & Poor's does not perform an audit, due diligence or independent verification of any information it receives from the issuer or a third party, or guarantee its accuracy, completeness or timeliness of the results by using the information. Moreover, it needs to be noted that it may incur a potential risk due to the limitation of the historical data that are available for use depending on the rating.

This information is based on information Daiwa Securities Co. Ltd. has received from sources it believes to be reliable as of March 7th, 2017, but it does not guarantee accuracy or completeness of this information. For details, please refer to the website of S&P Global Ratings Japan Inc. (<http://www.standardandpoors.co.jp>)

[Moody's]

The Name of the Credit Rating Agencies Group, etc

The name of the Credit Rating Agencies group: Moody's Investors Service ("MIS")

The name and registration number of the Registered Credit Rating Agency in the group: Moody's Japan K.K. (FSA commissioner (Rating) No.2)

How to acquire information related to an outline of the rating policies and methods adopted by the person who determines Credit Ratings

The information is posted under "Unregistered Rating explanation" in the section on "The use of Ratings of Unregistered Agencies" on the website of Moody's Japan K.K. (The website can be viewed after clicking on "Credit Rating Business" on the Japanese version of Moody's website (https://www.moody.com/pages/default_ja.aspx))

Assumptions, Significance and Limitations of Credit Ratings

Credit ratings are Moody's Investors Service's ("MIS") current opinions of the relative future credit risk of entities, credit commitments, or debt or debt-like securities. MIS defines credit risk as the risk that an entity may not meet its contractual, financial obligations as they come due and any estimated financial loss in the event of default. Credit ratings do not address any other risk, including but not limited to: liquidity risk, market value risk, or price volatility. Credit ratings do not constitute investment or financial advice, and credit ratings are not recommendations to purchase, sell, or hold particular securities. No warranty, express or implied, as to the accuracy, timeliness, completeness, merchantability or fitness for any particular purpose of any such rating or other opinion or information, is given or made by MIS in any form or manner whatsoever.

Based on the information received from issuers or from public sources, the credit risks of the issuers or obligations are assessed. MIS adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MIS considers to be reliable. However, MIS is not an auditor and cannot in every instance independently verify or validate information received in the rating process.

This information is based on information Daiwa Securities Co. Ltd. has received from sources it believes to be reliable as of April 16th, 2018, but it does not guarantee accuracy or completeness of this information. For details, please refer to the website of Moody's Japan K.K. (https://www.moody.com/pages/default_ja.aspx)

[Fitch]

The Name of the Credit Rating Agencies group, etc

The name of the Credit Rating Agencies group: Fitch Ratings ("Fitch")

The name and registration number of the Registered Credit Rating Agency in the group: Fitch Ratings Japan Limited (FSA commissioner (Rating) No.7)

How to acquire information related to an outline of the rating policies and methods adopted by the person who determines Credit Ratings

The information is posted under "Outline of Rating Policies" in the section of "Regulatory Affairs" on the website of Fitch Ratings Japan Limited (<https://www.fitchratings.com/site/japan>)

Assumptions, Significance and Limitations of Credit Ratings

Ratings assigned by Fitch are opinions based on established criteria and methodologies. Ratings are not facts, and therefore cannot be described as being "accurate" or "inaccurate". Credit ratings do not directly address any risk other than credit risk. Credit ratings do not comment on the adequacy of market price or market liquidity for rated instruments. Ratings are relative measures of risk; as a result, the assignment of ratings in the same category to entities and obligations may not fully reflect small differences in the degrees of risk. Credit ratings, as opinions on relative ranking of vulnerability to default, do not imply or convey a specific statistical probability of default.

In issuing and maintaining its ratings, Fitch relies on factual information it receives from issuers and underwriters and from other sources Fitch believes to be credible. Fitch conducts a reasonable investigation of the factual information relied upon by it in accordance with its ratings methodology, and obtains reasonable verification of that information from independent sources, to the extent such sources are available for a given security or in a given jurisdiction. The assignment of a rating to any issuer or any security should not be viewed as a guarantee of the accuracy, completeness, or timeliness of the information relied on in connection with the rating or the results obtained from the use of such information. If any such information should turn out to contain misrepresentations or to be otherwise misleading, the rating associated with that information may not be appropriate. Despite any verification of current facts, ratings can be affected by future events or conditions that were not anticipated at the time a rating was issued or affirmed.

For the details of assumption, purpose and restriction of credit ratings, please refer to "Definitions of ratings and other forms of opinion" on the website of Fitch Rating Japan Limited.

This information is based on information Daiwa Securities Co. Ltd. has received from sources it believes to be reliable as of September 27th, 2019, but it does not guarantee accuracy or completeness of this information. For details, please refer to the website of Fitch Rating Japan Limited (<https://www.fitchratings.com/site/japan>)

February 2020

IMPORTANT

This report is provided as a reference for making investment decisions and is not intended to be a solicitation for investment. Investment decisions should be made at your own discretion and risk. Content herein is based on information available at the time the report was prepared and may be amended or otherwise changed in the future without notice. We make no representations as to the accuracy or completeness. Daiwa Securities Co. Ltd. retains all rights related to the content of this report, which may not be redistributed or otherwise transmitted without prior consent.

Conflicts of Interest: Daiwa Securities Co. Ltd. may currently provide or may intend to provide investment banking services or other services to the company referred to in this report. In such cases, said services could give rise to conflicts of interest for Daiwa Securities Co. Ltd.

Daiwa Securities Co. Ltd. and Daiwa Securities Group Inc.: Daiwa Securities Co. Ltd. is a subsidiary of Daiwa Securities Group Inc.

Other Disclosures Concerning Individual Issues:

1) As of 26 April 2016, Daiwa Securities Co. Ltd., its parent company Daiwa Securities Group Inc., GMO Financial Holdings, Inc., and its subsidiary GMO CLICK Securities, Inc. concluded a basic agreement for the establishment of a business alliance between the four companies.

As of end-December 2017, Daiwa Securities Group Inc. owned shares in GMO Financial Holdings, Inc. equivalent to approximately 9.3% of the latter's outstanding shares. Given future developments in and benefits from the prospective business alliance, Daiwa Securities Group Inc. could boost its stake in GMO Financial Holdings, Inc. to up to 20% of outstanding shares.

2) Daiwa Real Estate Asset Management is a subsidiary of Daiwa Securities Group Inc. and serves as the asset management company for the following J-REITS: Daiwa Office Investment Corporation (8976), Nippon Healthcare Investment Corporation (3308), Japan Rental Housing Investments (8986).

3) Samty Residential Investment became a consolidated subsidiary of Daiwa Securities Group Inc. effective 10 September 2019.

4) On 30 May 2019, Daiwa Securities Group Inc. formalized an equity/business alliance with Samty, and as of 14 June 2019 it owned 16.95% of shares outstanding in Samty along with convertible bonds with a par value of ¥10bn. Conversion of all of said convertible bonds into common shares would bring the stake of Daiwa Securities Group Inc. in Samty to 27.28%.

5) Daiwa Securities Group Inc. and Credit Saison Co., Ltd. entered into a capital and business alliance, effective 5 September 2019. In line with this alliance, Daiwa Securities Group Inc. is to acquire up to 5.01% of Credit Saison's total common shares outstanding (excl. treasury shares; as of 31 Jul 2019).

6) NEC (6701): NOTICE REGARDING U.S. PERSONS: This report is not intended for distribution to or use by any person in the United States. Securities issued by NEC Corporation have been suspended from registration in the U.S. and are subject to an order of the U.S. Securities and Exchange Commission dated June 17, 2008, pursuant to Section 12(j) of the Securities Exchange Act of 1934. This document is not a recommendation or inducement of any purchase or sale of such securities by any person or entity located in the U.S. Daiwa Securities Co. Ltd. disclaims any responsibility to any such person with respect to the content of this document. Any U.S. person receiving a copy of this report should disregard it.

Notification items pursuant to Article 37 of the Financial Instruments and Exchange Law

(This Notification is only applicable to where report is distributed by Daiwa Securities Co. Ltd.)

If you decide to enter into a business arrangement with our company based on the information described in this report, we ask you to pay close attention to the following items.

- In addition to the purchase price of a financial instrument, our company will collect a trading commission* for each transaction as agreed beforehand with you. Since commissions may be included in the purchase price or may not be charged for certain transactions, we recommend that you confirm the commission for each transaction. In some cases, our company also may charge a maximum of ¥2 million per year as a standing proxy fee for our deposit of your securities, if you are a non-resident.
- For derivative and margin transactions etc., our company may require collateral or margin requirements in accordance with an agreement made beforehand with you. Ordinarily in such cases, the amount of the transaction will be in excess of the required collateral or margin requirements**.
- There is a risk that you will incur losses on your transactions due to changes in the market price of financial instruments based on fluctuations in interest rates, exchange rates, stock prices, real estate prices, commodity prices, and others. In addition, depending on the content of the transaction, the loss could exceed the amount of the collateral or margin requirements.
- There may be a difference between bid price etc. and ask price etc. of OTC derivatives handled by our company.
- Before engaging in any trading, please thoroughly confirm accounting and tax treatments regarding your trading in financial instruments with such experts as certified public accountants.

* The amount of the trading commission cannot be stated here in advance because it will be determined between our company and you based on current market conditions and the content of each transaction etc.

** The ratio of margin requirements etc. to the amount of the transaction cannot be stated here in advance because it will be determined between our company and you based on current market conditions and the content of each transaction etc.

When making an actual transaction, please be sure to carefully read the materials presented to you prior to the execution of agreement, and to take responsibility for your own decisions regarding the signing of the agreement with our company.

Corporate Name: Daiwa Securities Co. Ltd.

Registered: Financial Instruments Business Operator, Chief of Kanto Local Finance Bureau (Kin-sho) No.108

Memberships: Japan Securities Dealers Association, The Financial Futures Association of Japan, Japan Investment Advisers Association, Type II Financial Instruments Firms Association