

Daiwa's View

Yields are unlikely to rise

- Key point is a decline in the natural rate of interest

Fixed Income Research Section
FICC Research Dept.

Chief Strategist
Eiichiro Tani, CFA
(81) 3 5555-8780
eiichiro.tani@daiwa.co.jp



Daiwa Securities Co. Ltd.

We will not be sending out *Daiwa's View* reports during 13-16 August.

Yields are unlikely to rise

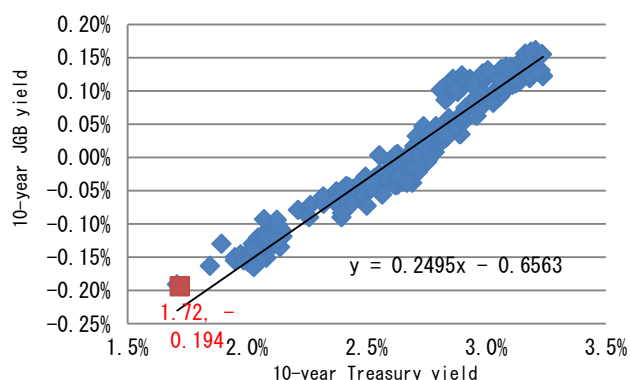
Key point is a decline in the natural rate of interest

The correlation between the Japanese and US long-term yields has been strong. A 1% change in the US yield has tended to cause a 0.25% (0.25x) change in the JGB yield. When US yields decline, a certain degree of decline in JGB yields is unavoidable.

The "0.25x" correlation has been consistent for most of the period since 2010. In this kind of situation, it is notable that the intercept has declined in line with the change in the BOJ's easing phase, while the "0.25x" correlation has remained mostly unchanged. Although JGB investment by overseas investors has recently attracted attention, the correlation itself has changed little (the right-hand chart below).

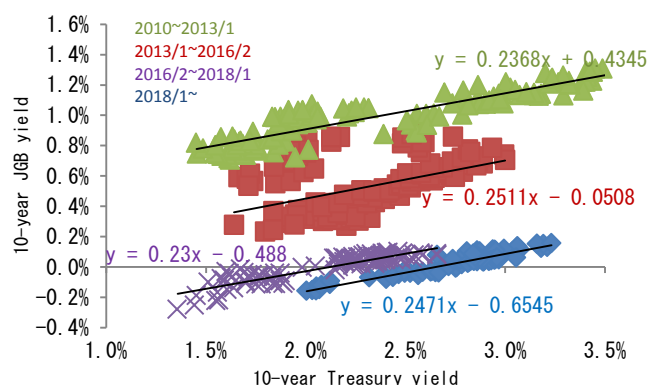
We had thought that the JGB yield sensitivity changed due to the introduction of the yield curve control (YCC) in September 2016 and the widening of the fluctuation range of the long-term interest rate under the YCC in July 2018. However, this turned out to be an illusion—i.e., JGB yields just rose at a rate of 0.25x as US yields were on an uptrend at that time. In addition, the intercept declined by 1.1% cumulatively over the past seven years. This appears to be a phenomenon reflecting a decline in the natural rate of interest.

Chart: 10-year Yields in Japan and US (from Jul 2018, daily)



Source: Bloomberg; compiled by Daiwa Securities.

Chart: 10-year Yields in Japan and US (from Jun 2010, weekly)

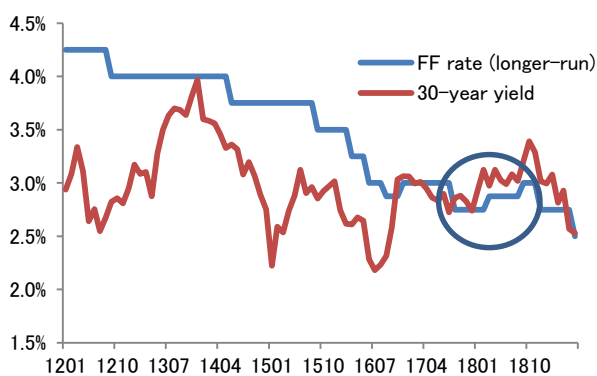


Source: Bloomberg; compiled by Daiwa Securities.

In fact, a similar phenomenon has also been observed in the US. The longer-run federal funds rate (median) declined from 4.25% in 2012 to 2.5% in June 2019. During this period, US inflation expectations have not changed much. Accordingly, if the federal funds rate is broken down into inflation expectations and the natural rate of interest, the decline appears to have been caused mainly by the natural rate of interest.

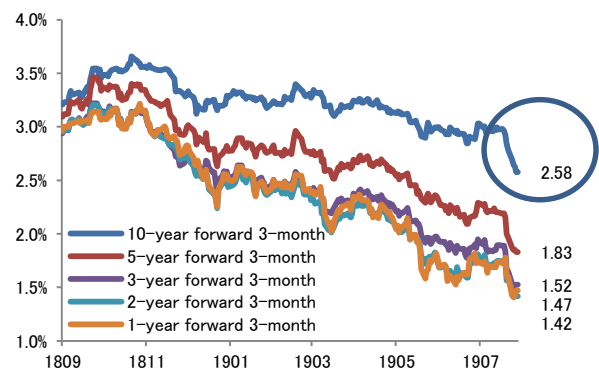
Many factors affect the change in the natural rate of interest¹. However, the biggest change after the global financial crisis was probably “increased purchases of safe assets” due to quantitative easing (QE) by major central banks (i.e., money glut in the private sector). In fact, the longer-run federal funds rate has consistently been in a downtrend for most of the period since 2012. However, since mid-2017 when the US and Europe shifted to an exit strategy and the Fed announced a plan to start balance sheet reduction (QT), the longer-run rate had temporarily posted a weak rebound.

Chart: US FF Rate (longer-run) and 30-year Yield



Source: Bloomberg; compiled by Daiwa Securities.

Chart: US Treasury Forward Yields



Source: Bloomberg; compiled by Daiwa Securities.

Under normal circumstances, the longer-run rate is approximately equal to the 30-year US yield, and therefore a decline in the longer-run rate pushes down the end of the yield curve. If we assume that the longer-run rate declines to 2.25% (natural rate of interest: 0.5% + inflation: 1.75%) and the 10-year/30-year spread is 50bp, the 10-year US yield can be calculated at around 1.75%. This is roughly the same as the current yield level.

Recently, the ECB has decided to consider QE resumption reflecting a clouded economic outlook, and the Fed has decided on a rate cut and an end to QT earlier than planned due to escalating US-China trade tension. Under the circumstances, the US yield level shifted substantially downward throughout the curve. This may reflect (1) a fall in the growth rate due to escalating US-China trade tension and (2) a future decline in the natural rate of interest owing to further easing by major central banks, rather than a temporary phenomenon due to risk-off sentiment. Although the 10-year forward 3-month rate had long stayed at the 3% level, it has sharply declined to the 2.5% level, forcing us to expect a decline in the longer-run rate.

Going forward, US inflation expectations are expected to signal a decline as the Fed further discusses a modification to the policy framework. If inflation expectations drop to 1.5%, alongside the decline in the natural rate of interest to 0.25%, the US 30-year yield of 1.75% and 10-year yield of 1.25% could be realistic. In that case, a simple application of the aforementioned “0.25X” relationship would lead to a 10-year JGB yield of -0.35% (or 20-year yield of -0.10%). Our view is that current JGB yields are not necessarily low, and that they are unlikely to rise going forward.

¹ Lawrence H. Summers (2014) “U.S. Economic Prospects: Secular Stagnation, Hysteresis, and the Zero Lower Bound.”

Chart: Forecasts for US Longer-run Rate, 30-year and 10-year Yields (%)

Longer-run rate = 30-year yield	Inflation		10-year/30-year spread	10-year yield	Note
	Inflation	Natural rate of interest			
2.50	2.00	0.50	0.50	2.00	Before escalation of US-China trade tension
2.25	2.00	0.25	0.50	1.75	Current market condition
2.00	1.75	0.25	0.50	1.50	
1.75	1.50	0.25	0.50	1.25	In case of decline in inflation
1.50	1.50	0.00	0.50	1.00	In case of decline in inflation and natural rate of interest

Source: Compiled by Daiwa Securities.

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 ("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.co.jp/web/>)

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 May 13th, 2016, 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.co.jp/web/>)

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.

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

If you decide to enter into a business arrangement with our company based on the information described in materials presented along with this cover letter, 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 (including tax) 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.

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.

Financial instruments firm: 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