

Daiwa's View

Interpretation of market consensus

- Market is factoring in the start of a rate hike within three years and a pace of rate hikes of once per year

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.

Market is factoring in the start of a rate hike within three years and a pace of rate hikes of once per year

Interpretation of market consensus

Expectations of an earlier rate hike have spread in the market amid developments such as the US presidential election and progress in vaccine development. In this report, we examine how the market understands the Fed's forward guidance by observing its consensus on the timing and pace of rate hikes. We first describe the conclusion—currently, the market appears to be factoring in the start of a rate hike sometime within three years and a pace of rate hikes of about once per year.

Timing of rate hike

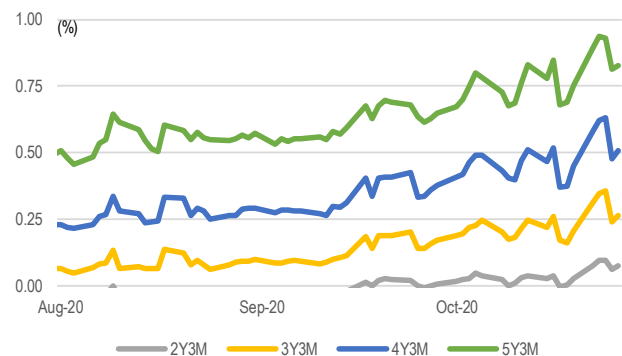
In order to conduct an accurate observation of market expectations regarding the rate hike, we need to use the effective federal funds rate that is derived by the Fed, as well as its estimated value of OIS futures¹. Currently, the effective federal funds rate is at 0.09%, the 2-year forward 3-month OIS is at 0.17%, the 3-year forward 3-month OIS is at 0.36%, and the 5-year forward 3-month is at 0.92%. The difference between the 3-year forward 3-month OIS (0.36%) and the effective federal funds rate (0.09%) is 0.27%. This figure is larger than the estimated amount of a single rate hike of 0.25%, suggesting that the market is currently factoring in the start of a rate hike within three years.

Effective Federal Funds Rate, OIS Futures (%)

	Effective FF rate	2Y3M	3Y3M	4Y3M	5Y3M	10Y3M
13-Nov-20	0.09	0.17	0.36	0.60	0.92	1.41
06-Nov-20	0.09	0.12	0.30	0.54	0.84	1.38
05-Nov-20	0.09	0.09	0.25	0.47	0.78	1.29
04-Nov-20	0.09	0.09	0.26	0.46	0.77	1.31
03-Nov-20	0.09	0.13	0.35	0.61	0.94	1.42
02-Nov-20	0.09	0.12	0.31	0.56	0.87	1.35
30-Oct-20	0.09	0.13	0.34	0.60	0.92	1.41
30-Sep-20	0.09	0.06	0.19	0.39	0.67	1.21
31-Aug-20	0.09	0.04	0.16	0.36	0.68	1.15
31-Jul-20	0.10	-0.05	0.04	0.20	0.44	0.75

Source: Bloomberg; compiled by Daiwa Securities.

Moves Factoring in Rate Hike (OIS futures – Effective federal funds rate)



Source: Bloomberg; compiled by Daiwa Securities.

¹ Specifically, the degree of expected rise in the effective federal funds rate (approximately equal to the amount of rate hike being factored in by the market) is calculated by deducting the effective federal funds rate level from the OIS futures level. In this report, Bloomberg's FEDL01 Index is used as the effective federal funds rate—S0042FS 1Y3M BLC Curncy, S0042FS 2Y3M BLC Curncy, S0042FS 3Y3M BLC Curncy, S0042FS 4Y3M BLC Curncy, S0042FS 5Y3M BLC Curncy, and S0042FS 10Y3M BLC Curncy are used as 1Y-forward, 2Y-forward, 3Y-forward, 4Y-forward, 5Y-forward, and 10Y-forward 3M OIS, respectively.

This market response regarding the rate hike timing is inconsistent with economic/price projections and the dot chart shown at the September FOMC meeting. If such inconsistency is confirmed with projections and the dot chart to be disclosed at the next FOMC meeting, the recent rise in yields would not be justified. In this report, we think that the market has somewhat optimistic expectations regarding (1) the probability that three requirements for a rate hike will be met and (2) the timing of achieving average inflation of 2%. It is therefore possible that consensus on the timing of the start of a rate hike will be pushed back after the December FOMC meeting.

Pace of rate hikes

Another important point to be observed is how the market is factoring in the pace of rate hikes. In this regard, a key is the market's interpretation of Fed chair Jerome Powell's remark at the post-meeting press conference in September—"if we do lift off, we will keep policy accommodative until we actually have a moderate overshoot of inflation for some time."

Confirming the OIS level, the 3-year forward/4-year forward spread is 0.24% and the 4-year forward/5-year forward spread is 0.32%. These figures show that the market is factoring in a pace of rate hikes of roughly once per year. We can say that this is a very slow pace in comparison with the pace of past rate hikes². In [our previous report](#), we assumed that a rate hike would start in five years and the pace of rate hikes would be the Yellen pace/2 (twice a year).² However, the timing of the rate hike appears to have been much later than the market consensus, while the pace of rate hikes appears to have been much faster.

In closing, we have calculated the estimated value of the 5-year forward 5-year yield by scenario (i.e., the timing of the start of a rate hike) based on the new consensus regarding a pace of rate hikes of about once per year. We have examined several patterns, in which the upper limit of the effective federal funds rate is 1.5% or 2%, focusing on the fact that the current value of the 10-year forward 3-month OIS is at around 1.5%.

The results are shown in the chart below. The average value of the 5-year forward 5-year OIS during the last week stood at 1.17%, which factors in an upper limit of 1.5% and the start of a rate hike in three to four years. Given this, we can calculate that the 5-year forward 5-year yield will decline by around 10bp if consensus on the timing of the start of a rate hike is postponed by one year after the December FOMC meeting.

5Y-forward 5Y OIS Rate by Scenario (%)

Upper limit of 1.5%	1Y OIS	2Y OIS	3Y OIS	4Y OIS	5Y OIS	6Y OIS	7Y OIS	8Y OIS	9Y OIS	10Y OIS	5Y-forward 5Y OIS
Rate hike starts next year	0.34	0.59	0.84	1.09	1.34	1.50	1.50	1.50	1.50	1.50	1.47
Rate hike starts in 2 years		0.34	0.59	0.84	1.09	1.34	1.50	1.50	1.50	1.50	1.41
Rate hike starts in 3 years			0.34	0.59	0.84	1.09	1.34	1.50	1.50	1.50	1.30
Rate hike starts in 4 years				0.34	0.59	0.84	1.09	1.34	1.50	1.50	1.14
Rate hike starts in 5 years					0.34	0.59	0.84	1.09	1.34	1.50	0.95

Upper limit of 2%	1Y OIS	2Y OIS	3Y OIS	4Y OIS	5Y OIS	6Y OIS	7Y OIS	8Y OIS	9Y OIS	10Y OIS	5Y-forward 5Y OIS
Rate hike starts next year	0.34	0.59	0.84	1.09	1.34	1.59	1.84	2.00	2.00	2.00	1.80
Rate hike starts in 2 years		0.34	0.59	0.84	1.09	1.34	1.59	1.84	2.00	2.00	1.64
Rate hike starts in 3 years			0.34	0.59	0.84	1.09	1.34	1.59	1.84	2.00	1.45
Rate hike starts in 4 years				0.34	0.59	0.84	1.09	1.34	1.59	1.84	1.22
Rate hike starts in 5 years					0.34	0.59	0.84	1.09	1.34	1.59	0.97

Source: Bloomberg; compiled by Daiwa Securities.

² In past rate hikes, former Chair Alan Greenspan implemented rate hikes at every FOMC meeting (eight/year, hereinafter referred to as the Greenspan pace), and former Chair Janet Yellen conducted quarterly rate hikes (four/year, the Yellen pace).

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>)

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), Daiwa Securities Living Investment Corporation (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).

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