Daiwa's View

BOJ will be patient about yield declines

- Drivers of yen appreciation, which serve as factor to narrow output gap

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Drivers of yen appreciation, which serve as factor to narrow output gap

In his speech on 3 July, BOJ policy board member Yukitoshi Funo stated that "it is necessary to sustain a positive output gap as long as possible by maintaining interest rates at a sufficiently low level for a long time." At the press conference, meanwhile, he recognized that "there is no need to conduct additional easing now as price momentum is moving in line with the central bank's projection."

This opinion is in line with the BOJ's current basic stance (incl. that of governor and deputy governors)—"it is appropriate for the BOJ to continue with the current monetary policy stance." The basis is "price momentum in line with projections"—i.e., the fact that the output gap remains positive.

As shown by the fact that as many as four members pointed out the positive output gap in the Summary of Opinions at the Monetary Policy Meeting (MPM) on 19-20 June (released 28 Jun), the maintenance of the positive output gap is an anchor to the BOJ[1].

Chart: Summary of Opinions at MPM on 19-20 Jun 2019

	Opinions on prices	Remarks
1	The year-on-year rate of change in the consumer price index (CPI) is likely to increase gradually toward 2%, mainly on the back of the output gap remaining positive and medium- to long-term inflation expectations rising.	Official opinion
2	Further price rises, such as in food products, have spread widely on the back of increases in personnel expenses and prices of raw materials. Also, the labor market tightening that has lasted for a long period has led to a rise in prices of services. Prices seem to have been firm, and the basic mechanism for a rise in inflation driven by a positive output gap has been operating.	Official opinion
3	With a positive output gap supporting a rise in inflation, the year-on-year rate of change in the CPI has been positive. In order to raise the inflation rate and maintain its level going forward, it is necessary to further raise wages and continue doing so while maintaining reasonably tight labor market conditions.	Necessity for wage hikes
4	While upward pressure of a positive output gap on prices has been maintained, a rise in inflation has been delayed, being offset by the constraining effects on inflation due to a rise in productivity accompanying, for example, firms' labor-saving investment.	Delay in price increases due to supply factors
5	It appears that the convenience store industry has considered terminating late-night services due to a surge in wages for part-time workers on the late-night shift. This will result in a rise in sales per hour, which implies an increase in productivity, but will not lead to price rises. A lot of similar cases across the economy may be the reason behind a delay in price rises.	Delay in price increases due to supply factors
6	An acceleration in inflation has not been seen in Japan with the large impact of the trade friction between the United States and China, while there is still a long way to go to achieve the price stability target of 2%.	Downside risks against main scenario
7	There is a low possibility that the output gap will continue to widen within positive territory, and inflation expectations have remained weak. Against this background, it cannot be judged that the inflation rate will accelerate toward 2%.	Objection to official opinion

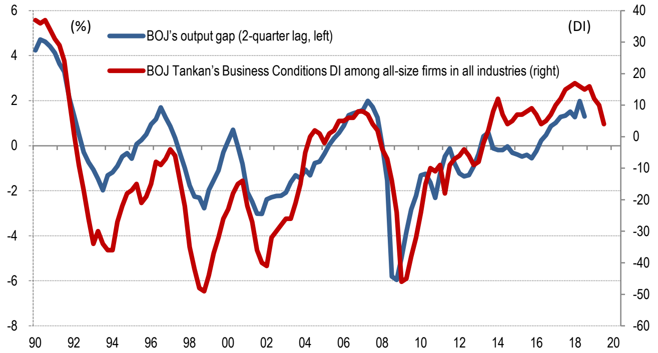
Source: BOJ; compiled by Daiwa Securities.

[1] Refer to our 1 Jul report Daiwa's View: *Summary of Opinions at Jun MPM: Opinions on additional easing vs. those on side effects.*

On 3 July, the BOJ announced the output gap. The Jan-Mar output gap, the latest data, narrowed to +1.30% from +1.98% in the previous quarter. That said, as the Oct-Dec data was temporarily boosted by one-off factors such as restoration/reconstruction work caused by natural disasters (typhoons, earthquakes), the latest data appears to have partially reflected the absence of such impacts. In fact, the Jan-Mar level (+1.30%) is just below the average for the past four quarters (+1.53%).

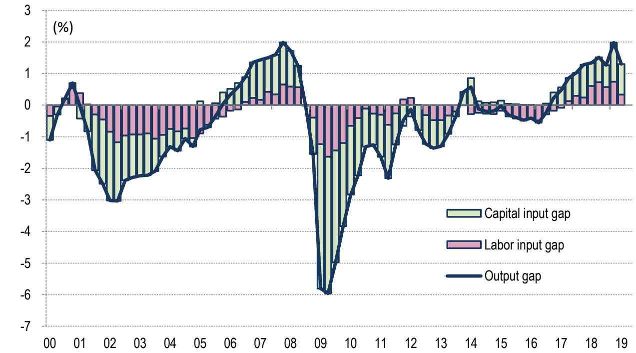
The BOJ's main scenario on the output gap in the April *Outlook for Economic Activity and Prices* report *(Outlook Report)* is as follows: "the gap has widened within positive territory on average against the background of the steady tightening of labor market conditions and a rise in capital utilization rates. As for the outlook, it is expected to remain substantially positive." A key is whether the gap will remain positive going forward.

Chart: BOJ's Business Conditions DIs in Tankan and Output Gap



Source: BOJ; compiled by Daiwa Securities.
Note: Latest Business Conditions DI indicates forecast DI.

Chart: Output Gap (calculated by BOJ)



Source: BOJ; compiled by Daiwa Securities.

Of course, the output gap is influenced by various factors such as actual GDP. As the BOJ has no direct impact on overseas economies, it must try to sustain a certain level of positive output gap, given such variables. In other words, the BOJ can have an impact via the financial environment factor. The central bank thus needs to maintain an accommodative monetary environment to make the output gap positive, regarding the external environment as a precondition.

■ ◆ **BOJ policy board member Yukitoshi Funo (3 Jul 2019)**

・Currently, the BOJ is buying JGBs so that 10-year JGB yields will remain at around 0%. At the same time, under market operations called "yield curve control," the BOJ set its short-term policy interest rate at –0.1%. Thanks to these operations, I think that short-term and long-term interest rates have been stable at low levels and that the accommodative monetary environment is stimulating economic activities at corporations and households.

Here, we confirm the current financial environment in Japan. It has tightened to the same level as that around the end of 2018 when the market faced a plunge in global stock prices. If the financial environment tightens further, it would approach the level in July 2016 when monetary easing was enhanced and that in September 2016 when the BOJ's comprehensive assessment was announced.

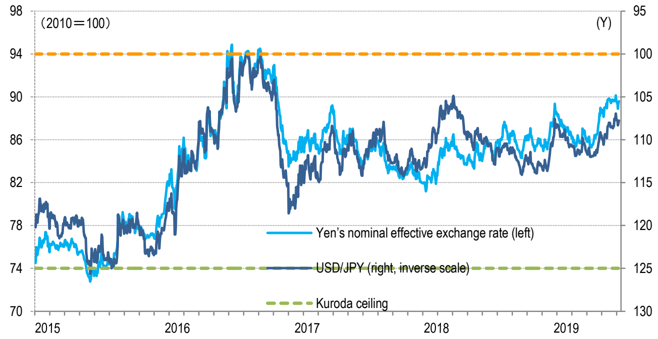
Incidentally, the financial environment can be largely explained by exchange rates (yen appreciation). Instead of the USD/JPY rate, the nominal effective exchange rate, which factors in other currencies, is posting almost the same movements as in the aforementioned periods. This makes sense as the effective rate has an impact on inflation and the entire macro economies.

Regarding the USD/JPY, the yen in early 2018 was stronger than the current level. However, the yen has been strengthening moderately since 2018 in terms of the effective exchange rate. Especially since Japan's ten-day holiday in May, the yen's effective rate has strengthened by 5% on an annualized basis, due to the global dovish domino alongside yuan depreciation.

Chart: Goldman Sachs Financial Conditions Index (Japan)

Source: Bloomberg; compiled by Daiwa Securities.

Chart: USD/JPY and Nominal Effective Exchange Rate



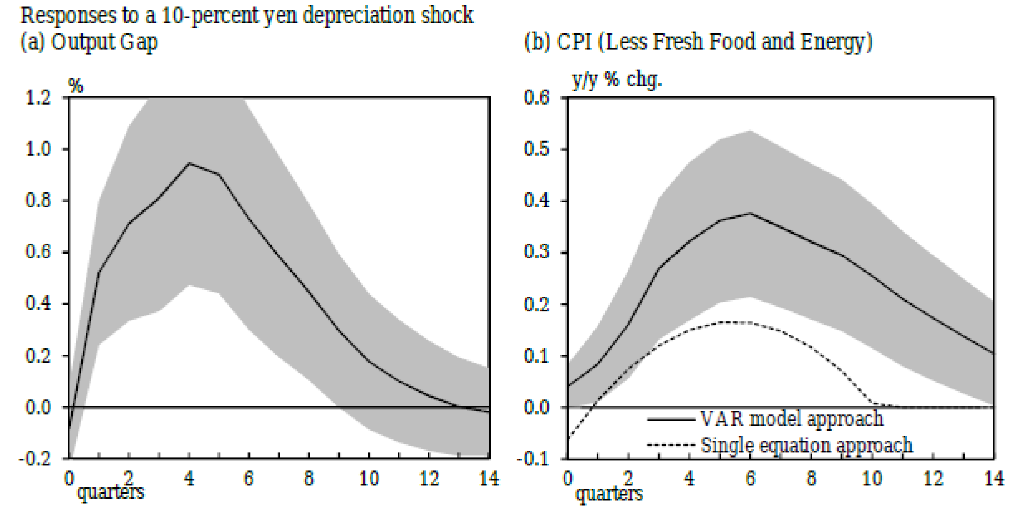
Source: Bloomberg, Haver; compiled BOJ; compiled by Daiwa Securities.

In its January 2016 *Outlook Report,* the BOJ estimated the effect of 10% yen depreciation in the vector auto-regression (VAR) model[2]. The report showed that a 10% yen depreciation shock boosted the output gap by slightly less than 1% in four quarters. Based on this result, the current 5% yen appreciation shock is expected to lower the output gap by 0.4-0.5% in the future. If the yen appreciates another 5%, this would lower the current positive output gap close to zero. This would happen when the yen's nominal effective exchange rate level is around 94.0, which happens to be the level as of 2016 (figure not USD/JPY rate).

Chart: Effects of Exchange Rates on CPI and Output Gap

VAR Model Approach[2]

(Estimation Model: Trivariate VAR)
Shock identification is based on Cholesky decomposition in the following order.
< 1. Yen's nominal effective exchange rate, 2. Output gap, 3. CPI (less fresh food and energy) >
The estimation period is 1991/Q1 - 2015/Q3.



Source: Extract from BOJ Outlook for Economic Activity and Prices (Jan 2016).

On 1 July, the IMF staff released a working paper regarding (1) whether rapid yen appreciation will emerge in the short term and (2) what are the drivers of sudden short-term yen appreciations[3]. The paper pointed out (1) monetary policy shifts, (2) safe-haven effects, and (3) carry trade reversals as factors behind rapid yen appreciation. In addition, it led to the following conclusion based on the examination of historical episodes of yen appreciation (spring 2006, late 2007, Dec 2015-Feb 2016) and the result of estimation using the VAR model.

[2] *Outlook for Economic Activity and Prices* (Jan 2016): *Box 4: Effects of Exchange Rates on the CPI*.
[3] Fei Han ,Niklas J. Westelius (2019): *Anatomy of Sudden Yen Appreciations*.

■ ◆ Conclusion of IMF working paper: Anatomy of Sudden Yen Appreciations

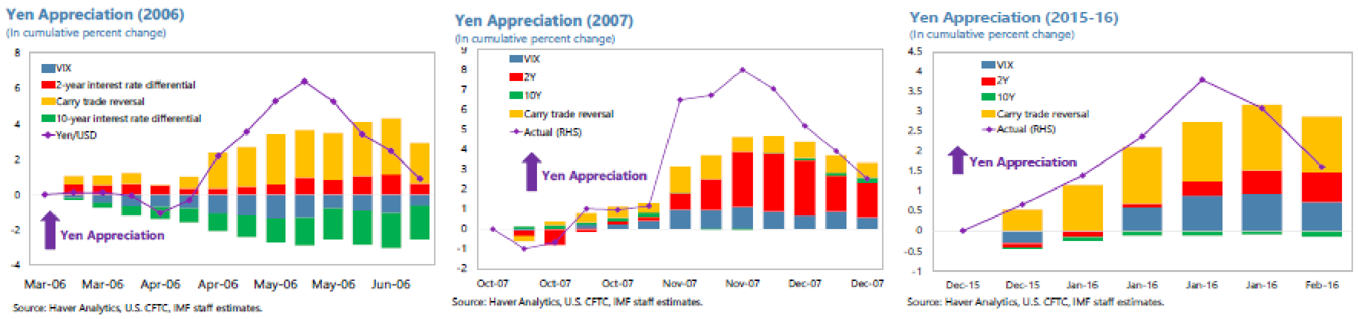
(1) A rise in foreign interest rates tends to depreciate the yen. However, it also encourages carry trade activities, which increases the likelihood of a large appreciation in the yen as the risk of a carry trade reversal increases.

(2) Heightened uncertainty typically leads to an appreciation of the yen due to safe haven effects, which can be amplified by a reversal in carry trade activities. Because interest rates in Japan are unable to adjust due to the effective zero lower bound (ZLB), yen appreciation is likely to be more pronounced than that of other safe haven currencies.

(3) Carry trade reversals typically work as shock amplifiers, making an initial appreciation more pronounced. However, a purely speculative shock that leads to a carry trade reversal can also cause a self-fulfilling appreciation cycle, as yen appreciation leads to further carry trade reversals.

The conclusion implies that all the aforementioned factors may have a substantial impact on the yen's short-term exchange rate. However, of course, the degree of impact from each factor on the exchange rate differs by event. For example, in the case of 2016 when increased concerns about China's growth worsened market uncertainty, both the VIX and carry trade played important roles as drivers for yen appreciation.

Chart: Contribution Breakdown of Factors Affecting Exchange Rates



Source: Extract from Fei Han ,Niklas J. Westelius (2019): Anatomy of Sudden Yen Appreciations.

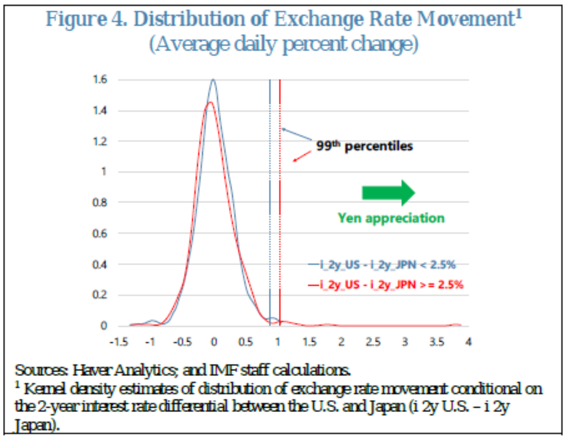
However, the interest rate differential plays a major role in the current situation where the market is factoring in the Fed's preemptive rate cut to address growing uncertainties. The paper says that "compared to the case when the interest rate differential is low (below 2.5%), the narrowing of the gap in the case when the differential is high (greater than or equal to 2.5%) increases the likelihood of large yen appreciation as carry trade positions are rapidly reversed."

The interest rate differential between Japan and the US has rapidly widened since the Fed's rate hikes since December 2015. In 2018, the difference exceeded 2.5% for the first time in about ten years. However, as the Fed shifted its monetary policy stance in early 2019, the differential narrowed at a stroke. The conclusion of this paper also includes policy implication—"US monetary policy normalization and a continuation of Japan's Yield Curve Control policy may encourage unhedged carry trade activities and increase the likelihood of large yen appreciations as those carry trade positions are rapidly reversed (once US policy stance changes course later on)."

Chart: Japan-US Interest Rate Differential (2Y and 10Y)

Source: Bloomberg; compiled by Daiwa Securities.

Chart: Chart: Kernel Density Estimates of USD/JPY Distribution



Source: Extract from Fei Han ,Niklas J. Westelius (2019): Anatomy of Sudden Yen Appreciations.

In the dot chart at the June FOMC meeting, seven members projected 50bp rate cuts in 2019. (The market has already factored in further rate cuts.) However, if the Fed is forced to cut rates further, the interest rate differential would tighten. The BOJ may thus face a tough situation. In addition, if the BOJ judges that the interest rate differential has an impact on exchange rates in the current phase, it would tolerate a further yield decline in negative territory. We think that the BOJ will be patient about yield declines.

■ ◆ **BOJ deputy governor Masazumi Wakatabe (27 Jun 2019)**

・Regarding yield curve control, the BOJ is conducting market operations so that 10-year JGB yields will remain at around 0%, as you know. At Governor's press conference in July 2018, he explained the range of around 0% as "about double the range of between -0.1% and +0.1%." As he clearly stated at the press conference after the latest MPM that there was no need to be overly strict in establishing a specific range (i.e., between -0.2% and +0.2%), I think that our operations are working flexibly.

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[Standard & Poor's]

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[Moody's]

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May 2018

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• 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.

** 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.

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