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Daiwa's View

Key issues surrounding BOJ's r* estimates and monetary policy messaging

- Expect no major revisions for neutral rate of interest range; estimated neutral rate of interest will not be used as primary messaging tool
- While maintaining guidance for further rate hikes, actual policy decisions will be made based on economic/price conditions, including whether rate hikes disrupt financial conditions such as lending trends

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At its 18-19 December Monetary Policy Meeting, the BOJ is expected to raise its policy rate from around 0.5% to around 0.75%. Numerous media outlets reported over the past week/weekend that additional rate hikes are under consideration; barring any market turmoil, a rate hike is now virtually a "done deal." According to the Nikkei, at this juncture no policy board members have explicitly opposed a rate hike and acceptance of a hike is gaining ground within the government.

Fix exchange rate, fix interest rates, fix the market

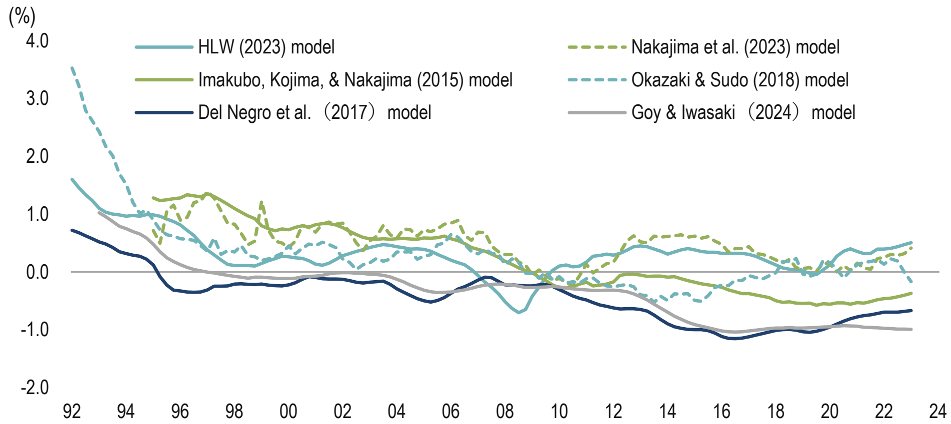
Market attention has already shifted to how the BOJ will communicate its policy normalization plans following the rate hike. This specifically concerns the gap between the neutral rate of interest and the policy rate after the rate hike, as well as discussions surrounding the pace of rate hikes leading up to that point.

BOJ Governor Kazuo Ueda stated at the press conference following his 1 December speech in Nagoya that he would make the gap between the policy rate and the neutral rate of interest "a little clearer" after raising interest rates. Also, during an Upper House Finance and Monetary Affairs Committee meeting on 4 December, he stated, "As for the neutral rate of interest, which can only be estimated within a wide range, we are continuing our efforts to narrow the estimation range." It is well known that the BOJ has thus far presented its view that the natural rate of interest (r*), understood as a long-term and structural concept, falls within a range of "-1.0% to +0.5%," based on six estimates.

In other words, assuming a 2% inflation target, the nominal neutral rate of interest would be "+1.0% to +2.5%." However, particularly among some market participants, there was a strong tendency to view the lower bound of 1.0% as the neutral rate or the terminal rate (peak of rate hiking cycle) amid the prevailing deflationary norms. If the policy rate were raised to around 0.75%, approaching the lower bound of 1.0%, expectations of an early end to rate hikes would spread. This could heighten concerns that long- and super-long JGB yields might actually rise further, in addition to yen depreciation concerns.

The primary reasons the BOJ (Ueda) has become more proactive in communicating the neutral rate of interest are likely concerns about yen depreciation and the rising long-term yield. In fact, on 18 November, when the Japanese market suffered a triple dip, the administration was clamoring for the BOJ to "Fix the exchange rate and fix interest rates. Just fix the market already." It was revealed that a directive came down from the Prime Minister's Office to MOF (*Toyo Keizai*). On 4 December, Jiji Press reported that the BOJ is conducting an examination of the neutral rate of interest level.

Estimates for Natural Rate of Interest in Japan



Source: BOJ; compiled by Daiwa.

Expect no major revisions for neutral rate of interest range

That said, Ueda's response at his press conference seemed somewhat overzealous. Perhaps, by updating the published r* model estimation period (currently through Jan-Mar 2023) to the most recent data and by raising the lower bound estimate, the BOJ's (Ueda's) intention appears to have been to dampen market expectations for "stalled rate hikes," while allowing the political (government) side to emphasize that "monetary conditions remain accommodative" even after rate hikes.

However, Jiji Press ran a follow-up report on 11 December stating that, while the BOJ is proceeding with its reassessment of the neutral rate of interest, "no major revisions to the upper and lower bounds of the range appear likely." The BOJ's recalculations showed that within models excluding upper and lower bounds, some confirmed upward movements. However, it reported that "the range did not clearly narrow and, even if adjusted upward, the increase is likely to be small."

Also, on 12 December, Reuters reported an article with the headline "BOJ Will Not Release Updated Estimate on Neutral Rate." This report stated that, "The BOJ is working internally to refine its estimate of the neutral rate of interest, but some say that even with such updated data, the wide estimate ranges remain unchanged." On the same day, Bloomberg also reported (citing knowledgeable sources) that, "Even reflecting recent data, there is no significant change in the view that Japan's neutral rate of interest is currently in a 1% and 2.5% range."

Weakness of Goy-Iwasaki (2024) model forming lower bound of r*estimate

However, for economists and others reasonably familiar with these estimation models and the actual data, it would have been foreseeable that extending the estimation of r* using the latest data would not significantly alter the lower or upper bounds of the estimation range.

Particularly problematic is the Goy-Iwasaki (2024) model, which falls at the lower end of the estimated range. The same is true for Del Negro et al. (2017) However, these are based on the idea of considering the real interest rate "trend" as an estimate of r*, which is therefore susceptible to real interest rates.

In particular, at this juncture, actual inflation trends are rising, so downward pressure is easily applied to short-term real interest rates and, unless the market interest rate rises beyond that level, the model tends to depict it as a decline in r*. As mentioned above, one weakness of this model stems from the fact that it calculates the real zero-coupon rate only for the short-term (3-month period) by subtracting the "actual" inflation rate from the nominal zero coupon rate (for one year or more, it is calculated by subtracting the consensus forecast for inflation by period from the nominal zero-coupon rate).

The creators of the model even pointed out the impact of the so-called "End Point Problem," in which estimates of recent trend components are prone to being dragged down by actual data. In particular, if the actual inflation rate rises and remains elevated, like the current situation, extracting that trend component from a random walk would allow us to estimate that r* will not rise over time. Perhaps, BOJ staff likely engaged in various trial & error approaches during the updating process, but there is the presumption that they concluded (or were compelled to conclude) that "there would be no major revision to the upper and lower bounds of the range."

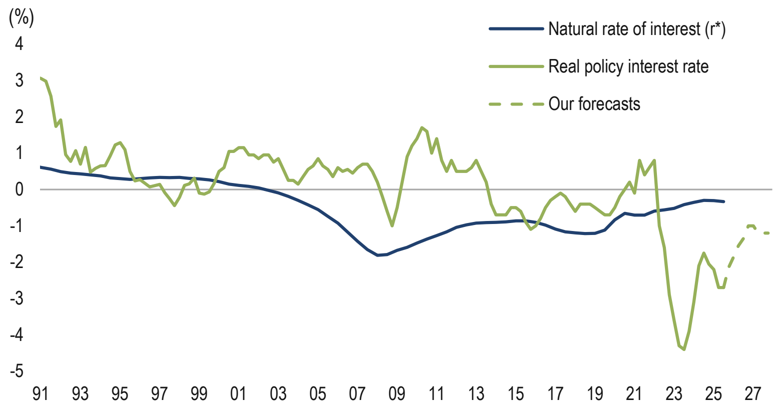
Considerable variation for neutral rate of interest estimates (even upper/lower bounds subject to error)

Of course, given such issues, the BOJ could consider removing the estimated values from the upper and lower bound models, or it could introduce new methodologies (models). However, the reality is that accusations of arbitrariness are unavoidable and there simply isn't enough time.

When policymakers and economists use estimates from "models" as a guide for assessing the neutral rate of interest (r*), they face a dilemma. Specifically, different models produce vastly different results and it is unclear which model is the "most" accurate. Bloomberg reported, citing sources, that, "It is still recognized that there is a considerable range and even the upper and lower bounds have room for error."

However, considering recent factors such as the potential growth rate, some model estimates point to a slight increase. Indeed, according to Reuters, "Within the BOJ, some have expressed unease that a portion of the market perceives the estimated lower bound of 1% as the terminal rate for the policy rate." Ueda may mention at his post-meeting press conference that, while considerable uncertainty exists regarding the upper and lower bounds of the range, several model estimates have been trending upward.

Japan's Natural Rate of Interest (Fed model), Real Policy Interest Rate*



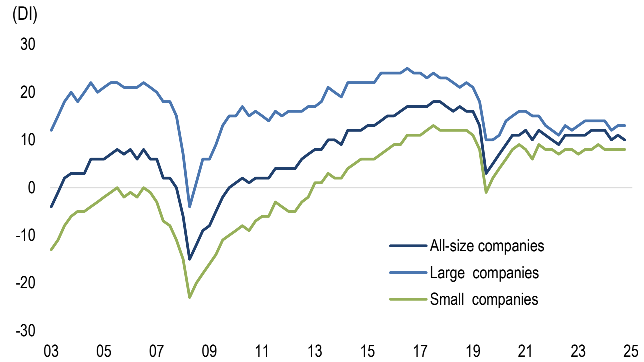
Source: Fed, Ministry of Internal Affairs and Communications (MIC), BOJ; compiled by Daiwa.
Note: Real policy interest rate is calculated by subtracting consumption-tax-adjusted CPI (excl. fresh food and energy) from uncollateralized call rate.

Neutral rate of interest estimates not positioned as BOJ's primary communication tool

At the same time, in order to avoid placing too much emphasis on the neutral rate of interest within the conduct of monetary policy, Ueda will likely stress a stance that suggests continuing interest rate hikes while carefully exploring the terminal rate, looking at the actual economy, inflation (underlying inflation), and the financial environment in general, starting with lending attitudes. According to Reuters, citing multiple sources, "It (BOJ) will not use the estimate as a main communication tool on the future rate-hike path given the difficulty of coming up with a precise projection." Reportedly, the BOJ does not predetermine a specific level as the neutral rate of interest and will continue to conduct its policy operations while examining economic and price conditions.

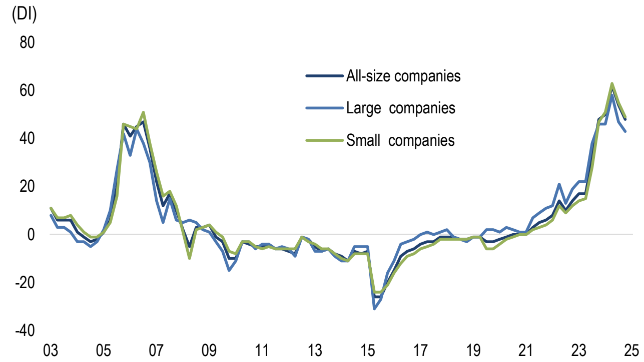
Given the difficulty in pinpointing the neutral rate of interest, the BOJ will likely continue to assess whether monetary conditions remain accommodative after rate hikes, while stressing that the post-hike policy rate level is accommodative. This assessment will be made by monitoring changes in the economy, prices, and financial conditions.

BOJ Tankan: Financial Position DIs



Source: BOJ; compiled by Daiwa.

BOJ Tankan: DIs on Change in Interest Rate on Loans



Source: BOJ; compiled by Daiwa.

Positive "financial accelerator" due to excessively low real policy rate

In that respect, the BOJ closely monitors financial conditions, particularly the lending trends of financial institutions, as an indicator of whether policy rates are accommodative. This is also a key determinant of the natural rate of interest (r*) in the Okazaki-Sudo model (2018), which incorporates not only technological progress rates and demographic trends, but also economic structures, including the functionality of financial intermediation.

The Okazaki-Sudo report (2018) found that the efficiency of financial intermediation activities pushed down the natural rate of interest by nearly 1 point from the mid-1990s to the early 2000s, when banking crises occurred, but recently such financial intermediation is viewed as a factor pushing up the natural rate of interest. When financial intermediation actually becomes dysfunctional, borrowing demand from businesses and households may decline, potentially leading to a decrease in (risk-adjusted) real interest rate. Therefore, financial factors continue to exert downward pressure on the natural rate of interest for several years following the banking crisis.

Currently, while attention is focused on how the BOJ rate hikes might negatively impact the functionality of financial intermediation, caution is also needed regarding the positive "financial accelerator" effect caused by excessively low real policy rates. A Reuters report also stated, "Both financial institutions' lending attitudes and private-sector funding assessments indicate accommodative financial conditions." According to Bloomberg, BOJ officials stated they would, "Closely monitor lending trends, which continue to show an upward trajectory."

◆ **BOJ policy board member Hajime Takata (19 Feb 2025)**

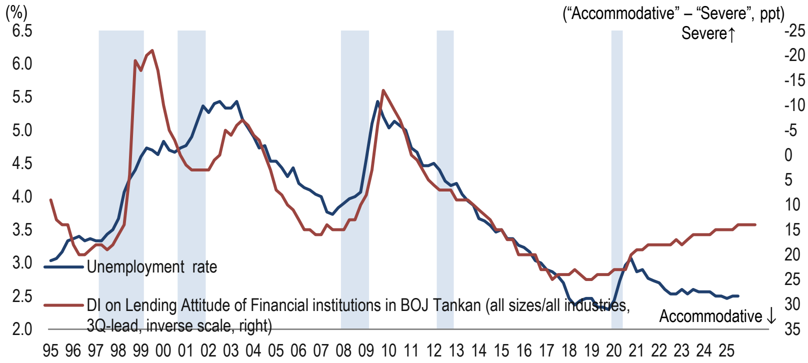
- Reflecting once again on the post-bubble period, the Bank had been implementing unconventional monetary measures ahead of other central banks to address a downturn in the real economy under the historically unprecedented situation of asset deflation and international competition.
- However, with the recent improvement in corporate profits and the solid rise in asset prices such as real estate and stocks, it could be said that now is the time for the direction of the financial accelerator to be changed, from its prolonged negative effect on the economy. In this case, it seems possible for the Bank to shift gears away from the substantial degree of monetary accommodation that has continued for many years.
- While microeconomic challenges remain, including wage hikes and price pass-throughs, the economy has moved out of the previous unprecedented situation. Given these developments, I believe that the Bank will need to conduct monetary policy based on the recognition that it has finally reached the point of returning from the implementation of unconventional monetary measures to policy conduct that is in line with what is seen in normal times.

Cautiously seeking terminal rate while stressing policy of continued rate hikes

During a 9 December *Financial Times* online event, Ueda stressed the BOJ's commitment to continued rate hikes, stating, "We will continue to adjust the level of monetary easing until inflation becomes sustainable," while indicating that, "The labor market is extremely tight and upward pressure on wages are likely to persist going forward."

Even at the press conference following the December meeting, while maintaining its guidance calling for additional rate hikes, the Bank will likely emphasize that, "In conducting monetary policy, while we refer to estimates of the neutral rate of interest. Actual policy decisions will be based on economic and price conditions, including whether rate hikes cause disruptions in financial conditions such as lending trends" (Reuters).

Unemployment Rate, DI on Lending Attitude of Financial institutions in BOJ Tankan



Source: MIC, BOJ; compiled by Daiwa.

As stressed by Fed Chairman Jerome Powell and other central bankers, even if the concept of a neutral rate of interest is theoretically clear, it remains invisible. We must feel our way forward, groping for the exact terminal rate step by step, while monitoring changes in the economy, prices, and financial conditions. Federal Reserve Bank of New York President John Williams (an authority on the r* model) stresses that even his own model has large errors (standard deviation), which makes pinpointing the neutral rate of interest impossible. In a sense, this may be a point that can only be known after the fact.

◆ **Then Fed Chair Janet Yellen (2 Dec 2015)**

- Our estimates of the neutral federal funds rate represent inferences about a moving target. As a result, although the data provide important signals about the neutral rate, our estimates are necessarily imprecise. In Laubach and Williams (2003), for example, the standard error of the estimate of the neutral rate in one baseline model was about 2 percentage points on average. Moreover, one-sided estimates of the neutral rate--those available to policymakers, based only on data known at the time--are generally noisier than estimates of the neutral rate at some previous time that incorporate all the data available.

Perhaps, the BOJ should likewise consider enhancing market functioning by eventually publishing participants' policy rate projections (dot plot), similar to the Fed's approach. However, the October 2024 Summary of Opinions included the view that, "It is difficult for the Bank to show with confidence the medium-term path of the policy rate to the markets because there are high uncertainties regarding the level of the neutral rate of interest and the transmission mechanism of monetary policy." This may very well represent the Bank's current stance.

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