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Liquid Insight

Will 2s10s JGB curve invert?

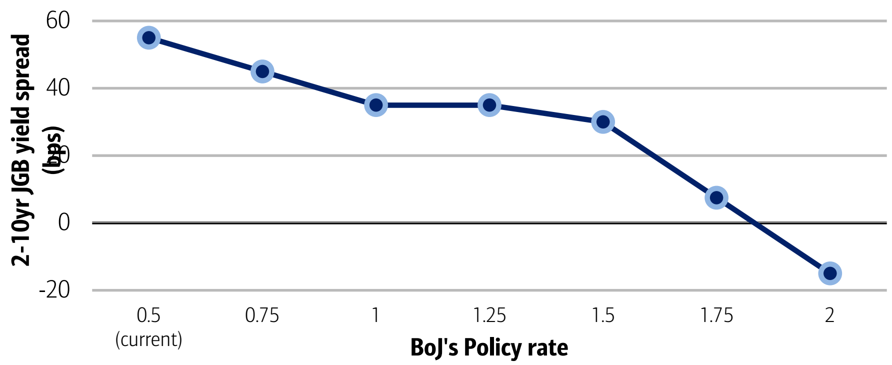
Key takeaways

- Japan's yield curve did not invert during BoJ's prolonged low interest rate policy
- Curve could invert if BoJ raises policy rate to 2%
- Hike to 2% not our base case, but room for 2yr forward 2s10s OIS curve to flatten

By Tomonobu Yamashita and Shusuke Yamada

Chart of the day: BoJ policy rate and 2s10s JGB spread forecast (simulation for BoJ policy rate above 1.5%*)

Yield curve could invert if BOJ hikes to 2%



Source: BofA Global Research, Bloomberg

*Note: The 2-year JGB yield and 10-year JGB yield with the policy interest rate up to 1.5% are our estimates. For numbers after 1.75%, the 2-year bond yield is assumed to increase by 25bp with each policy rate hike, and the 10-year bond yield is calculated using linear interpolation with an upper limit of 2.1%.

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Rate hikes to 2% could invert 2s10s JGB curve

We revised our Bank of Japan (BoJ) call, USD/JPY forecasts, and yen rates forecasts this week and we now expect higher yields and a flatter curve than we had expected previously (see: Japan Rates and FX Viewpoint: JPY vs JGB – JPY still in the driving seat 18 February 2025). In this note, we explore the possibility of an inversion in the JGB curve.

The BoJ's prolonged low interest rate policy meant that for a long period, the Japanese economy did not experience any central bank rate hikes. The negative spread between the long-end/front-end of the curve often seen during central bank rate-hiking cycles has not occurred in Japan since 1990s.

The BoJ's current 0.5% policy rate suggests that the 2s10s JGB yield curve is unlikely to invert in the near term. However, given that (1) Japanese banks are the main investors in medium-term JGBs, where we see fair value for yields as the policy rate + risk premium, and (2) fundamentals imply a fair value of around 2% for the 10yr JGB yield, if the BoJ raises rates to 2%, we believe an inversion in the 2s10s curve would become realistic.

19 February 2025

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Will 2s10s JGB curve invert as BoJ continues hiking?

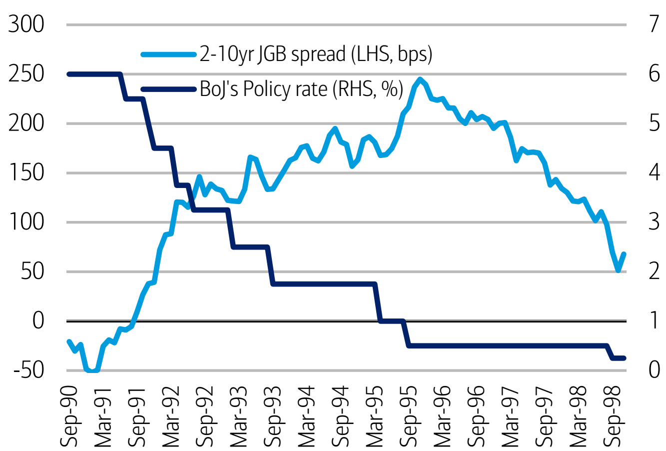
Typically, when a central bank begins a rate-hiking cycle and the policy rate approaches the neutral rate or becomes restrictive, medium-term yields rise, while long-term yields increase to a lesser extent because they price in a future economic slowdown and, in some cases, rate cuts. This is why the yield curve can invert instead of maintaining its usual upward slope. The 2s10s yield curve has indeed inverted in the US and other major developed economies during central bank rate-hiking cycles.

The JGB yield curve currently retains its normal upward slope. The 2s5s and 2s7s curves inverted several times during Haruhiko Kuroda's tenure as BoJ governor (2013-2023), reflecting the drastic tightening of supply/demand for 5-10yr JGBs caused by the BoJ's massive JGB purchases. However, this was different in nature from the yield curve inversion that typically occurs during central bank rate-hiking cycles.

2s10s JGB curve inverted in 1990s

That is not to say that Japan's yield curve has never inverted, however. The 2s10s JGB curve did invert around 1990 (Exhibit1). The BoJ wrote regarding the inverted spread between long- and short-term rates around this time that "the inversion of long- and short-term rates appeared to basically reflect the fact that (1) long-term inflation expectations were relatively subdued compared to short-term expectations, owing in part to the Bank's stance on curbing inflation and the market's medium- to long-term view that the yen would appreciate in the foreign exchange market; (2) a significant contribution from the decline in US long-term interest rates during the latter half of fiscal 1990; and (3) in addition, as is typically observed when growth in outstanding government bonds slows to reflect progress with Japan's fiscal reconstruction, the supply and demand for long-term bonds had been tightening in preceding years, which was believed to have also had some structural impact." [1]

Exhibit1: 2s10s JGB spread and BoJ policy rate in 1990s
Yield curve inverted in Japan around 1990



Source: Bloomberg, BofA Global Research
Note: Policy rate is the month-end value, spread is the monthly average value.
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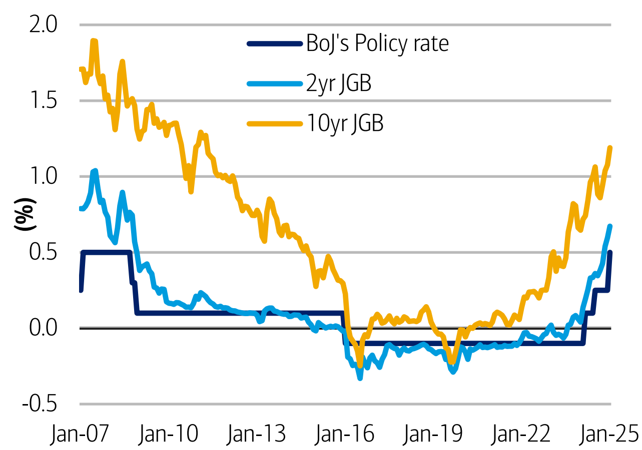
Exhibit2: BoJ policy rate and JGB yields since 2007
Medium-term JGB yields are essentially policy rate + risk premium



Source: Bloomberg, BofA Global Research
Note: Policy rate is the month-end value, JGB yield is the monthly average value.
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Yield curve unlikely to invert any time soon

We think the 2s10s curve is unlikely to invert in the near term, applying the three reasons the BoJ cited for its inversion around 1990 to today.

1. Firstly, expectations for a decline in inflation and future yen appreciation will likely remain subdued. According to a 6-10 January Bloomberg survey, the consensus for average 2025 Japan-style core CPI (ex. fresh food) inflation is just +2.3% (+2.5% in 2024), and the end-2025 USDJPY forecast is ¥148/$. In short, respondents see

[1] https://www3.boj.or.jp/josa/past_release/chosa199106a.pdf

limited downside for USDJPY from current levels, and expect sustained yen weakness and entrenched inflation. As the yen weakness has been driven by structural factors, in our view, a decline in import prices and a sharp pullback in inflation look unlikely (for details, see Japan Rates and FX Viewpoint: JPY vs JGB – JPY still in the driving seat 18 February 2025).

2. According to another Bloomberg survey (survey period: 16-22 January), consensus estimates for the 10yr UST yield are 4.27% at end-2025 and 4.13% at end-2026. While respondents expect US long-term yields to gradually decline, the Fed indicated at its January Federal Open Market Committee (FOMC) that it is in no hurry to cut rates (see US Watch: January FOMC meeting: In a really good place 2025-01-29), in contrast to the period after it shifted into full-on monetary easing mode in autumn 1990[2]. Our US team expects the Fed to remain on hold throughout 2025 and the 10yr US Treasury yield to stay elevated at 4.75%. A decline in 10yr JGB yield caused by a slump in US long-term yields appears unlikely.

3. Fiscal policy is another upside risk for JGB yields. The Japanese government has kept policy loose even after the BoJ began scaling back its JGB purchases, effectively kicking off quantitative tightening (QT). We estimate net JGB supply will increase from ¥41.5tn in 2024 to ¥57.0tn in 2025. With both the ruling coalition and opposition parties advocating expansionary fiscal policy, we think net JGB supply is unlikely to decline in the longer term.

1.5% policy rate unlikely to invert 2s/10s curve

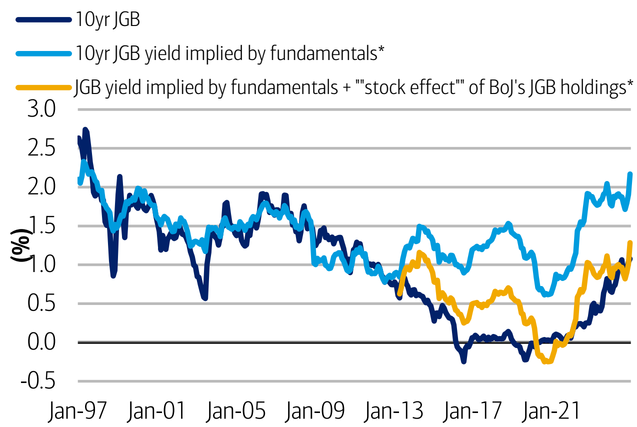
Our Japan economists expect the BoJ to raise rates by 25bp at its June, December 2025, and July 2026 monetary policy meetings (MPMs) and in January-March 2027, bringing the terminal rate for the current cycle to 1.5% (for details, see Japan Viewpoint: More inflation, more hikes 18 February 2025). The Quick survey of domestic bond market participants conducted on 28-30 January showed that both the median and mode of forecasts for the BoJ's end-2026 policy rate were 1%. While our view is therefore more hawkish, even if the BoJ raises rates again in line with our scenario it would likely not be enough to invert the 2s10s curve.

Domestic banks, the main investors in medium-term JGBs, can use their BoJ current account deposits to earn risk-free interest on excess reserves (IOER). We therefore think fair value for the 2yr JGB yield is the BoJ's policy rate + risk premium (Exhibit2), and would expect the yield to rise to 1.7-1.9% if the BoJ raises the policy rate to 1.5%, provided the market does not price in additional rate hikes to 1.75% or above at that point.

It is well known that prior to the start of quantitative and qualitative easing (QQE) under previous BoJ governor Haruhiko Kuroda, Japan's long-term yields typically aligned with estimates using (1) the active job openings-to-applicants ratio, (2) CPI inflation (headline excluding fresh food, YoY), and (3) the 10-year US Treasury yield as explanatory variables. This model implies that the 10yr JGB yield would now be around 2% had the BoJ had not implemented monetary easing[3] (Exhibit3). Our calculation indicates a 10yr JGB yield of around 1.1% including stock effects, versus the actual yield of around 1.42%. We think the actual yield is above the value based on fundamentals minus stock effects because the market is factoring in future reductions in BoJ purchases (i.e., increase in net JGB supply).

[2] https://www5.cao.go.jp/keizai3/sekaikeizaiwp/wp-we91-2/wp-we91-02102.html
[3] https://www.boj.or.jp/mopo/mpmdeci/transparency/rel210322b.pdf

Exhibit3: Actual and simulated 10yr JGB yields
Fundamentals imply 2% fair value for long-term yield



Source: Bloomberg, BoJ, MHLW, MIC, BofA Global Research

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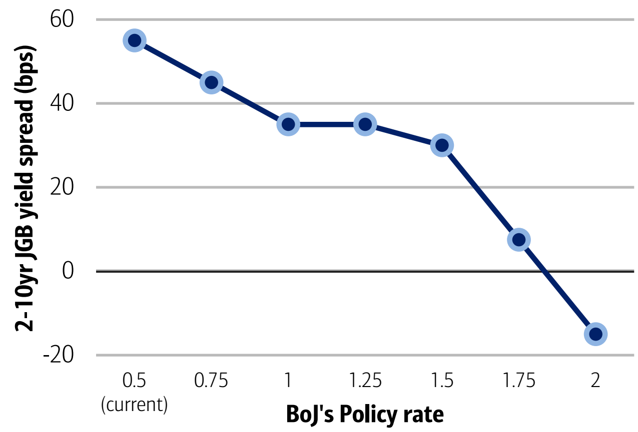
Exhibit4: BoJ policy rate and BofA 2s10s JGB spread forecast
Yield curve could invert if BOJ hikes to 2%



Source: BofA Global Research, Bloomberg
Note: The 2-year JGB yield and 10-year JGB yield with the policy interest rate up to 1.5% are our estimates. For numbers after 1.75%, the 2-year bond yield is assumed to increase by 25bp with each policy rate hike, and the 10-year bond yield is calculated using linear interpolation with an upper limit of 2.1%.

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Will 2s10s JGB curve invert if policy rate reaches 2%?

We estimate the BoJ's holdings as a percentage of JGBs outstanding will shrink from 51.6% as of January 2025 to 46.6% at end-March 2026. While the BoJ is trimming its JGB holdings at a gradual pace, we think the 10yr yield could exceed 2% if inflation and US yields remain high and the bond market expects a future increase in fiscal risk premium (broadly equivalent to an increase in net JGB supply).

For instance, the calculation we used above would imply a fair value for the 10yr JGB yield of around 2.1% assuming the Japan-style core CPI rises to 3.5%[4] and the 10yr UST yield reaches 5%. An increase in the BoJ's policy rate to 2% would imply fair value for the 2yr yield of 2.2-2.5%, making it more likely to exceed the 10yr yield if cost-push inflation is behind the rise in inflation. In our forecast time horizon (FY26), Such conditions may be met if USD/JPY rises sharply, say above 170, causing higher inflation and more BoJ rate hikes.

Trade recommendation: 2yr forward 2s10s OIS flatteners

BoJ policy board member Naoki Tamura argued on 6 February that the Bank needs to raise its policy rate to at least 1% in 2H FY25. While we would caution that Mr. Tamura is known as the most hawkish of the BoJ's nine board members, we see the possibility that it may not stop hiking at 1%, believed to be the lower end of the nominal neutral rate of interest. The 2yr forward 2yr OIS rate is currently just 1.16% and the 2y10y OIS rate is 1.56%, and based on the logic we discuss above we see scope for the curve to flatten. We therefore recommend 2yr forward 2s10s OIS curve flatteners. Our recommendation has an entry of 40bp, target of 25bp, and stop loss of 47.5bp. Risks to our view are the BoJ calling an early halt to rate hikes if the Japanese and overseas economies slow.

[4] If the yen continues to weaken, the BoJ could also be forced to raise its policy rate to above 2% for currency defense purposes. This would likely cause the 2s10s JGB yield curve to invert more than we expect.

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