

# Daiwa's View

## Sensitivity of JGB yields to US yields

- Levels depend on short-term yield trends

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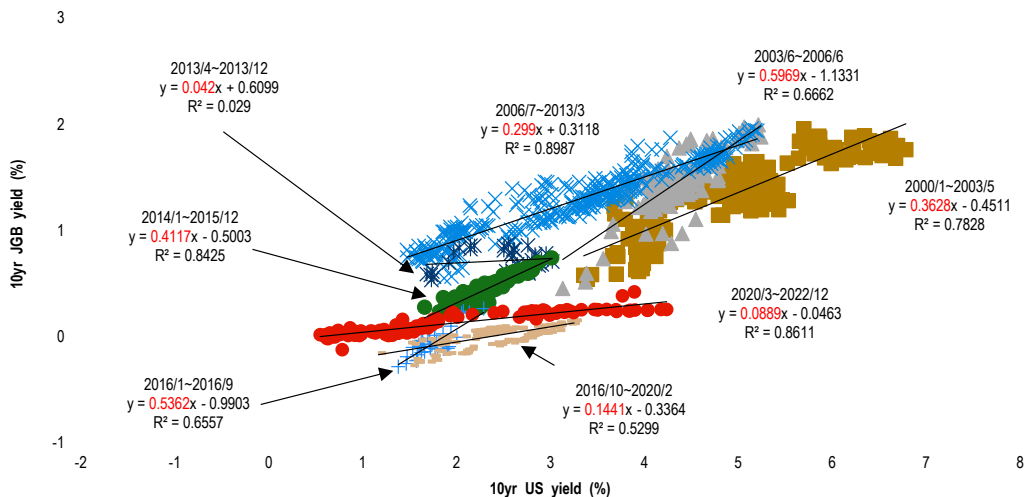
### Levels depend on short-term yield trends

### Sensitivity of JGB yields to US yields

JGB yield trends are greatly influenced by US Treasury yields, which are the world's largest market. Particularly since 2000, the BOJ's monetary policy has been having little impact on yield levels. US yields have accounted for a great proportion of the factors behind JGB yield fluctuations. Accordingly, until recently, it has been important to consider JGB yields' sensitivity (beta) to US yield trends and US yield fluctuations when forecasting JGB yields.

The beta of JGB yields against US yields will remain important going forward. However, if we assume that the BOJ moves towards monetary policy normalization, trends with the beta may change in line with a rise in JGB yields caused by monetary policy. In this report, we examine the beta. To state our conclusion at the outset, if normalization by the BOJ moves forward, the beta of JGB yields to US yields will rise higher than before, and JGB yields will be more inclined to follow the rise (and fall) of US yields. Due to this, it is possible that the influence of US yield fluctuations on the yen market may decrease compared to before.

Chart 1: Sensitivity of 10yr JGB Yield to 10yr US Yield



Source: Bloomberg; compiled by Daiwa Securities.

Since the bursting of the asset bubble, the BOJ has eased monetary policy as a response to deflation. Mainly due to this impact, JGB yields have remained low. As there was not much leeway to cut the policy interest rate, the extent of JGB yield fluctuations has been limited on the entire yield curve, both on the upside and downside. In fact, confirming the relationship between the 10-year JGB yield and the 10-year US yield by period, we find that the beta is at the 0.5 level at most. During other periods, the beta was at 0.5 or lower (Chart 1).

Excluding the period before the Global Financial Crisis triggered by the Lehman Brothers bankruptcy, when the beta was the highest since 2000, the beta was relatively high at 0.4 or higher between 2014 and mid-2016. After Mr. Haruhiko Kuroda became BOJ Governor in 2013, the central bank expanded the monetary base by purchasing JGBs, which led to lower JGB yields. In 2013, US yields were rising partly due to the taper tantrum in the US. However, as the BOJ's policy had a major impact on JGB yields, a clear correlation with US yields did not appear. US yields have started to decline since 2014, which seems to have led to a rise in the beta.

Then, the beta was particularly high from January 2016, when the BOJ introduced negative interest rates, to September 2016, when the yield curve control (YCC) policy was introduced. Due to the significant decline in JGB yields via the introduction of negative interest rates, the investment target of Japanese players shifted to foreign bonds, resulting in a drop in US yields. This is likely a rare case of JGB yield trends having an impact on US yields.

However, the beta has been low since 2020. This is because the long-term JGB yield has been contained due to the BOJ's YCC despite a significant rise in US yields. Excluding the period from the COVID-19 pandemic and the period when the beta was temporarily high (before the pandemic), it can be said that the beta was around 0.1 to 0.3 for the most part.

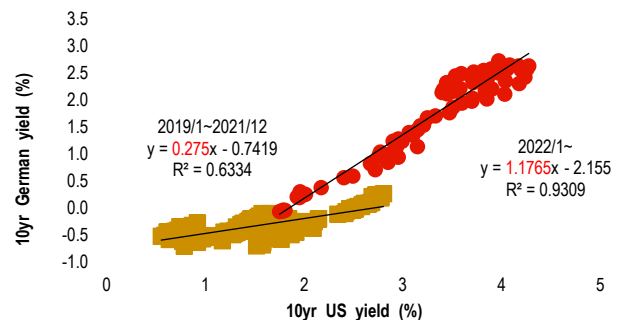
In its Comprehensive Assessment in September 2016 and the Assessment in March 2021, the BOJ announced the results of linear regression analysis that used the 10-year JGB yield as an explained variable and several explanatory variables (incl. the 10-year US yield). In the analysis, the coefficient of the US yield is 0.1 to around 0.25, which is almost the same level as the results in this report. Of course, in the linear regression that was announced by the BOJ, explanatory variables include the BOJ's share of JGB holdings and other economic indicators. Therefore, there is divergence with our simple calculations. However, as a trial calculation of the sensitivity (beta) of JGB yields to US yields, it can be said that there is no significant difference.

**Chart 2: 2yr Yield in Japan and US**



Source: Bloomberg; compiled by Daiwa Securities.

**Chart 3: Sensitivity of 10yr German Yield to 10yr US Yield**



Source: Bloomberg; compiled by Daiwa Securities.

Will the beta remain low going forward? Regarding this point, we look back at the period from 2003 to 2006, when the beta rose to about 0.6. In the US, the Fed started rate cuts in line with the bursting of the tech bubble that occurred in early 2000. But, with the end to rate cuts in June 2003, the rate-hike cycle started in June 2004 (and continued until 2006). The 2-year yield, which greatly reflects the market's projections for the policy interest rate, had seen a downtrend until 2003, but it has shifted to an uptrend since then (Chart 2). Meanwhile, in Japan, the BOJ maintained the policy rate at zero until 2005, but it raised interest rates by 0.25ppt in July 2006, and then again in February 2007. Factoring in these hikes, the 2-year JGB yield had risen from mid-2005 to 2007.

In other words, during this period, the BOJ followed suit with the Fed's rate hikes, leading to a rise in the 2-year yield both in Japan and the US. In particular, the beta of the 2-year JGB yield to the 2-year US yield since 2006 had risen to 0.7. In this way, the rise in the beta of JGB yields against US yields at the starting point of the yield curve can be thought to have led to a rise in the beta of the 10-year yield. We can sum up by saying that the beta remained at a low level in other periods since 2000 because the BOJ didn't follow suit with either rate hikes or rate cuts by the Fed.

The fact that the beta of the starting point of the yield curve has an influence on the beta of the 10-year yield is also verified by the relationship between German Bund yields and US Treasury yields. Since the introduction of negative interest rates in May 2014, the ECB had not raised interest rates until July 2022. Therefore, the beta vs. US yields remained low (Chart 3), similar to the beta of JGB yields since 2000. However, as the ECB and the Fed have conducted rate hikes at almost the same pace since July 2022, the beta of the 10-year German yield to the 10-year US yield rose to nearly 1.

As mentioned above, one can say the greater the rise in the sensitivity of the policy interest rate, the greater the rise in the beta of the 10-year JGB yield to the 10-year US yield. During the time that the BOJ's policy interest rate underwent little change, the beta was around 0.1 to 0.3. Moreover, if German yields are also taken into consideration, it can be assumed that (1) the beta of the 10-year yield will approach 1 if the policy interest rates in Japan and the US move together, but (2) the beta will not rise to 1 if the BOJ's policy interest rate does not fully follow the Fed's policy interest rate. Due to the BOJ's policy revisions in July 2023, speculation about elimination of negative interest rates increased slightly, leading to a rise in the 2-year JGB yield. However, rates being continuously hiked from zero upwards following the elimination of negative interest rates is something that has not been factored in. Accordingly, the beta of the 2-year JGB yield to the 2-year US yield has not risen, which can be regarded as one factor in containing the rise in the beta of the 10-year JGB yield.

It is uncertain whether the BOJ will raise the policy interest rate next year or in the next economic cycle partly because the decision depends on economic conditions in the US and other nations. However, if both Japan and the US move to a situation in which the policy interest rate is raised, the beta of JGB yields to US yields is likely to rise compared to before<sup>1</sup>. If that happens, JGB yields may exceed estimated levels based on the past relationship between JGB and US yields. Accordingly, the impact of US yield fluctuations on the yen market may weaken compared to before. That said, it appears unlikely that the BOJ will be able to raise interest rates to the same extent that the Fed has. Given what happened in 2006, we forecast that the rise in the beta will be limited to around 0.7.

<sup>1</sup> As the Fed is now in the final stages of rate hikes, a rate hike by the BOJ is expected to result in a temporary break down in the correlation between US and Japanese interest rates.

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