Daiwa Securities

Daiwa's View

FICC Research Dept

Analysis of JGB term premiums

- Expect increased interest in JGB term premiums if Japan transitions to "world with interest rates"
- 10yr JGB yield rise above 0.9% last year linked to sharp UST term premium rise, but currently unsustainable
- Immediate target is pre-QQE "0.5% risk-neutral yield + 0.5% term premium ≈ 1%"; see 0.4% + 0.4% ≈ 0.8% as realistic target for a dip-buying

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Analysis of JGB term premiums

In this report we will provide an overview of JGB term premiums (TP). Last year, interest in the UST term premium was high. If the BOJ raises interest rates for the first time in roughly 17 years, thus moving Japan into a "world with interest rates," we would expect interest in JGB term premiums, which have been held back by BOJ bond purchasing operations, to increase.

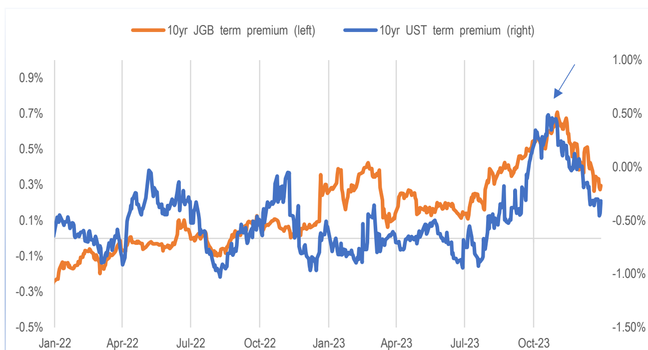
Was last year's JGB yield rise akin to a term premium tantrum?

In Oct-Nov 2023, the 10-year JGB yield (simple yield) rose to the 0.9% level for the first time since before the introduction of quantitative and qualitative easing (QQE). Based on the analysis in this column, it seems likely that this rally was a temporary phenomenon driven by spiking UST term premiums. These UST term premiums began to decline after a sharp rise toward the end of October and a nearly similar price movement was seen for JGB term premiums over the same period.

The fact that the price movements were term premium-driven is corroborated by the risk-neutral yield (RNY) remaining generally stable. The current level of the 10-year risk-neutral yield has not yet reached that prior to QQE. This is likely a reflection of the market's view that raising interest rates in positive territory, even after ending negative interest rates, will be difficult (= BOJ will proceed very cautiously).

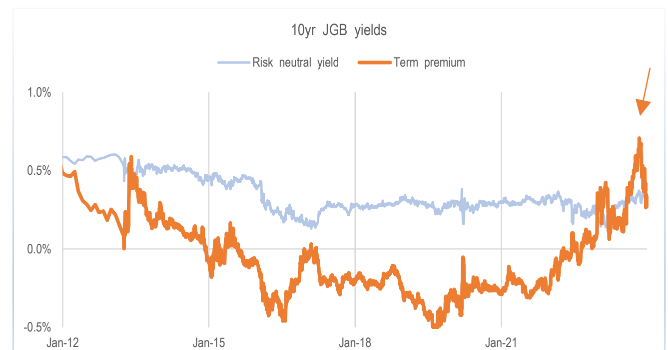
Furthermore, while the BOJ is expected to end negative interest rates this year, there is still considerable distance to go before the Bank can start reducing its enormous holdings of outstanding JGBs (i.e., QT). Also, the term premium spike due to JGB-specific factors is unlikely to continue. Perhaps it is somewhat premature at this juncture to expect the 10-year JGB yield to return to its pre-QQE level (RNY 0.5% + TP 0.5% ≈ 1%). For now, a realistic dip-buying target would be 0.4% + 0.4% ≈ 0.8%.

Term Premiums (10yr JGBs, 10yr USTs)



Source: MOF, Bloomberg; compiled by Daiwa.

Risk Neutral Yield and Term Premium (10yr JGBs)



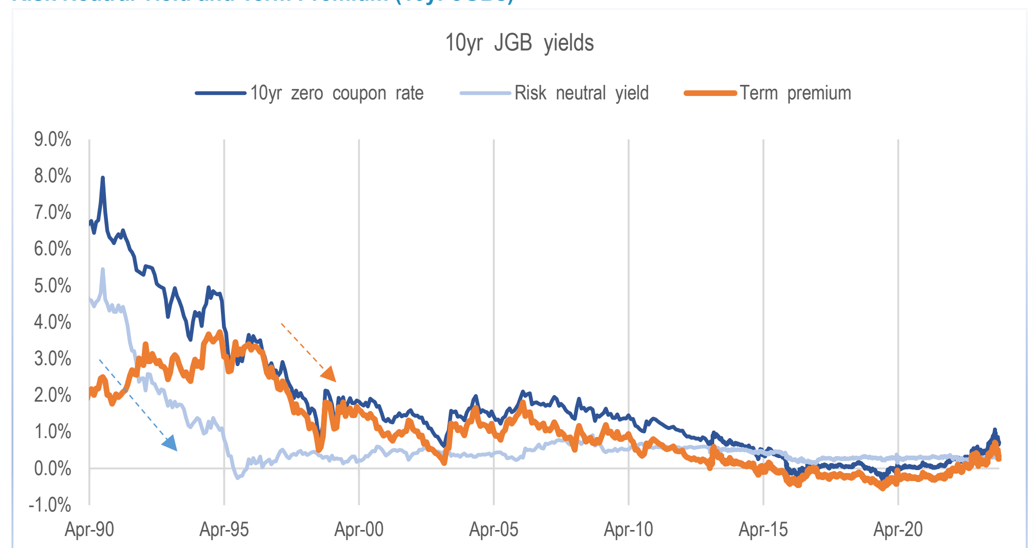
Source: MOF; compiled by Daiwa.

Yield curve theory and term premiums
The three widely known yield curve term structure theories are the (1) pure expectations hypothesis, (2) liquidity premium hypothesis, and (3) market fragmentation hypothesis. Of these, the pure expectations hypothesis assumes that market participants' expectations of future short-term interest rates are reflected in the yield curve. Meanwhile, with the liquidity premium hypothesis, the longer the remaining maturity (term), the greater the risk of holding the bond due to lower liquidity, and thus the risk premium would increase more for long-term bonds than for short-term bonds. The market fragmentation hypothesis considers short-term and long-term bonds to be independent markets (because they involve different investors).

Both the (1) pure expectations hypothesis and (2) liquidity premium hypothesis are used when calculating term premiums. Specifically, based on certain models, (1) the risk-neutral yield according to the pure expectations hypothesis is derived, and (2) the risk premium (term premium) is extracted by taking the difference between (1) and the actual yield. The key to the usefulness of this analysis depends on how to derive a superior risk-neutral yield. Since all supply/demand factors are reflected in the term premium, which is the residual, the results are likely to be swayed by the model used.

Long-term trends for risk-neutral yield and term premium
In this report, we used Federal Reserve Bank of New York's ACM model to derive the risk-neutral yield and then calculated the JGB term premium[1]. The New York Fed's ACM model with five latent variables provides a better depiction of the term premium than Kim & Wright and other models that have only three latent variables[2]. This is also the most widely accepted model in the market and the reason for its adoption is the intuitive understanding of the model, including its shortcomings (we have often mentioned the ACM term premium in this report). The following section provides the estimated results for the 10-year JGB yield.

Risk Neutral Yield and Term Premium (10yr JGBs)



Source: MOF; compiled by Daiwa.

When taking an overview of the transition for the risk-neutral yield and term premiums, we see that the 10-year JGB yield since 1990 can be divided into two major declining phases. The first phase is the decline led by the risk-neutral yield from the bursting of Japan's bubble to around 1995. The second phase is the decline led by the term premium since 1996. It is widely known that the globalization of the economy since the end of the Cold War (China's entry in the WTO), the IT revolution (Windows 95), and bank deposit

[1] Refer to New York Federal Reserve papers for the technical details.
[2] In general, more than 99% of the yield curve can be explained using just the three latent variables (level, slope, and curvature), but previous studies have shown that models using five latent variables are more accurate when calculating term premiums.

accumulation due to Japan's demographics (aging population) have contributed to lower inflation risks and improved bond supply and demand.

Since the war in Ukraine, a clear reversal of some of these factors has been observed and it is often argued that the era of declining yields has come to an end. While there is clearly a certain plausibility to that hypothesis, there is also the suspicion that the technology factor is underestimated. Although few concrete results have been confirmed at the macroeconomic level so far, if AI does indeed start replacing human jobs with an explosive increase in productivity in the future, the current tight labor market conditions could start to relax. Even if the era of declining yields is over, it is difficult to determine at this point whether we have truly converted to a regime of higher yields.

Pre-QQE level of 0.5% + 0.5% ≈ 1% as immediate target

Confirming the estimated results from the perspective of comparison with the pre-QQE period, the breakdowns for the risk-neutral yield and term premium as yield percentages came to around 0.5% each (RNY0.5% + TP0.5% ≈ 1%). Meanwhile, the risk-neutral yield at present is around 0.3-0.4%, which is still some distance from the pre-QQE level. This risk-neutral yield level probably reflects the BOJ's expectations that significantly raising interest rates in positive territory, even after ending negative rates, will be difficult.

The BOJ's balance sheet has also swelled significantly compared to levels before QQE and, since there is still some distance to go before starting the process of reducing these JGB holdings (=QT), the term premium is still unlikely to increase compared to the past. If that is the case, then for the time being the immediate dip-buying target would be around TP 0.5% + RNY 0.5% ≈ 1%, which existed before QQE. However, we believe that roughly TP 0.4% + RNY 0.4% ≈ 0.8% is a realistic target for the next few years, when the Fed's rate cutting cycle is expected to continue.

Of course, there will come a day when a JGB 10-year yield over 1% RNY + just under 1% TP ≈ 2% + α (close to super-long JGB forward yields) will be realized due to (1) establishment of RNY reflecting the Taylor Rule (guideline for central banks to manipulate interest rates to stabilize the economy) and (2) normalization of the term premium brought about by the balance sheet contraction. If fiscal discipline were to loosen at that time, the possibility of a term premium-driven spike in yields could not be ruled out. That said, while it is very important to have a sense of the appropriate levels in mind, it is not realistic to set that level as the near-term 10-year JGB yield dip-buying target. As JGB investing is entering a period of change, it is important to have an image of both the appropriate level and time horizon.

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