Daiwa Securities

Daiwa's View

YCC observations series (3): Three approaches to interest-rate targeting and their impact on the yield curve

- (1) Policy signaling approach, (2) incremental approach, and (3) long-term approach

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When Ben Bernanke was Fed Chairman, the Fed decided on a large second round of quantitative easing (QE2) at the November 2010 FOMC meeting[1]. We now know that, together with the QE policy that it called large-scale asset purchases (LSAPs), the Fed was also seriously considering a policy of targeting interest rates (i.e., yield curve control (YCC)).

A memo written by FOMC staff based on that debate, **Strategies for Targeting Interest Rates Out the Yield Curve**, was published in January 2016. This document was prepared primarily for purposes of comparing YCC with LSAPs, and the Fed wound up choosing QE (LSAPs) at the time. However, there was a comprehensive discussion of the advantages and disadvantages of several different types of yield curve targeting, and this is still relevant today. Choosing the maturity to target is a particularly important element of adopting yield curve control and the analysis for making that choice is quite interesting.

The Fed is now considering using YCC as a tool for additional easing. Consequently, together with the documentation put together by the Fed in 2003 to analyze the version of YCC implemented by the Fed in 1942-1951, the above-noted memo has become an important document that is likely being referenced closely within the Fed right now. In this report, we reference this 2010 FOMC staff memo to examine the three approaches to interest-rate targeting, each targeting a different maturity, and look at their impact on the yield curve[2].

◆ **Three approaches to interest-rate targeting**

YCC, a policy of targeting interest rates, has both benefits and risks. The benefits are that both interest rate levels and volatility are reduced, which in turn stimulates economic activity and pushes the yield curve toward economic conditions viewed as desirable by policymakers. In conjunction with clear communication on the interest rate target, interest rates decline based on signaling effects. This makes it possible to reduce the amount of government bonds that must be purchased in order to push the interest rate toward the targeted level.

Interest rate targeting brings with it several risks, however. If the target is not frequently and sufficiently adjusted to accommodate changes in macroeconomic conditions, interest-rate targeting can create significant volatility in the central bank's government bond holdings and possibly have destabilizing macroeconomic effects. Because it had a policy of benchmarking against government bond prices, the Fed confronted this problem following the Second World War.

[1] Over the 8-month period from November 2010 until June 2011, the Fed purchased a total of $600 billion of additional Treasurys, a monthly purchasing pace of about $75 billion.
[2] In the discussion over choosing the target, there was also debate over whether the target should be hard or soft. We explain this in detail in a separate report.

Normally, the devil is in the details. The most important factor to consider when selecting an approach to targeting interest rates is which maturity to target. The choice of that horizon entails trade-offs with potential risks, including from policy exit. The FOMC staff memo posited three approaches to choosing this targeting horizon. Specifically, **the policy signaling approach** of targeting the short-term to intermediate zones of the yield curve; **the incremental approach**, initially targeting the short end of the curve and gradually moving the target farther along the curve as needed; and **the long-term approach**.

◆ **Policy signaling approach**

The policy signaling approach sets a cap on yields for all government bonds that will reach maturity during the period over which the Fed expects to hold the policy rate (fed funds rate) near zero. For example, if the FOMC expects to start raising its target for the fed funds rate in mid-2024, it will cap the yields of all government bonds that mature by June 2024 at 25bp and purchase bonds accordingly[3].

Under this approach, if economic conditions are as expected, the time horizon over which the interest rate is targeted will shorten over time until the targeted interest rate winds up being the same as the Fed funds rate. Over time as the Treasurys on the Fed's balance sheet reach maturity, those bought under the program are no longer on the balance sheet. Consequently, even when a large quantity of Treasurys is purchased, if things go as expected the Fed will not confront any difficulties when it exits from interest-rate targeting.

This approach also makes clear the period over which the policy rate will remain unusually low, and by working on market expectations it reinforces the commitment. However, problems may arise if the economy and prices improve faster than expected and the policy rate is raised earlier than anticipated. In this case, some of the Treasurys bought under the program would still be on the balance sheet after the policy rate is raised. In that case, raising the interest on excess reserves (IOER) together with the policy rate would result in negative spreads.

The policy signaling approach is effective when the economy is weak and there is a need for a strong policy to change market sentiment. By more accurately indicating the time horizon over which the Fed expects the short-term rate to remain near zero, it is possible to provide clear forward guidance in the FOMC statements. In fact, the policy signaling approach, by virtue of its reinforcing forward guidance, is the approach that currently has the most support within the FOMC.

◆ **Minutes of FOMC meeting on 28-29 Apr 2020 (20 May 2020)**

・A few participants also noted that the balance sheet could be used to reinforce the Committee's forward guidance regarding the path of the federal funds rate through Federal Reserve purchases of Treasury securities on a scale necessary to keep Treasury yields at short- to medium-term maturities capped at specified levels for a period of time.

◆ **Incremental approach**

The incremental approach starts out by targeting the interest rate at the short end of the curve and moving out (extending the time horizon) in steps as needed. The objective is the same as that for the policy signaling approach: to ensure consistency with the future expected policy-rate by keeping Treasury yields low. Unlike the policy signaling approach, however, the maturity of the securities targeted is not intended to signal the length of the "extended period" for the policy rate, at least initially.

It is possible that a central bank, specifically the Fed, is more comfortable setting clear targets for short-term rates. This may be because central banks have more experience and expertise in manipulating short-term rates than of doing so with longer-term rates, have a clearer view of the former, and prefer to cautiously and gradually move the targeted interest rate farther out the curve to achieve the desired effect on the economy.

In its initial step with the incremental approach, for example, it would set a cap on the current 2-year Treasury (Treasurys maturing within two years) at 25bp and purchase Treasurys that mature by then. The 2-year yield would decline, and this would also put downward pressure on longer-term yields. If the effects on the yield curve were deemed insufficient, the Fed could start targeting the 3-year yield.

[3] Note that the Fed would continue purchasing Treasurys with residual maturities of 4 years when it set the target but would not continue purchasing 4-year Treasurys as time passed.

As with the policy signaling approach, under the incremental approach the program naturally ends over time. Furthermore, because it cautiously moves the targeted interest rate further out the curve, even when expectations arise of the policy rate path rising earlier than initially expected, there is unlikely to a problem of unredeemed government bonds remaining on the balance sheet This is another advantage it shares with the policy signaling approach. Fed Governor Lael Brainard has long been a proponent of this approach.

◆ **Fed Governor Lael Brainard (8 May 2019)**

・Another idea I would like to hear more about involves targeting the yield on specific securities so that once the short-term interest rates we traditionally target have hit zero, we might turn to targeting slightly longer-term interest rates—initially one-year interest rates, for example, and if more stimulus is needed, perhaps moving out the curve to two-year rates.

◆ **Long-term approach**

The third approach is to target long-term JGB yields. This approach is easy for Japanese investors to envision because it is what the BOJ has used since September 2016. It is also the more appropriate approach if the thinking is that targeting a decline in long-term interest rates is more likely to directly stimulate economic activity than would lowering short-term or intermediate interest rates.

For example, the FOMC could announce a cap on the 10-year Treasury yield of 100bp and instruct the Fed operations desk to purchase Treasurys that exceed the cap in various maturities up to 10 years. Unlike the other two approaches, this form of targeting would not naturally expire. The Fed could keep the policy in place until economic conditions improve and it deems economic stimulus no longer necessary. Even here, it would likely have to adjust the cap sometimes.

A critical advantage of this strategy is that by lowering long-term rates, it is possible to directly affect the portion of the yield curve that is most likely to stimulate economic activity. When it is time to raise the policy rate, however, this approach is likely to leave the Fed with a large amount of unredeemed Treasurys on its balance sheet. Particularly as economic conditions improve, the Fed would be forced to purchase a large amount of Treasurys unless it frequently adjusted the yield target. This would expand its balance sheet and make exiting the policy that much more difficult.

To alleviate this problem, even if only slightly, the pace of purchases could be capped at, for example, a maximum of $100 billion/month. As long as this combination of LSAPs with interest-rate targeting is expected to ultimately require a hefty pace of purchases to reach the target, most of the yield impacts can be achieved when the target is announced. Even this would not make the ultimate amount purchased certain, however, and the balance sheet could still ultimately wind up being large.

◆ **Comparing interest-rate targeting approaches based on their yield curve impact**

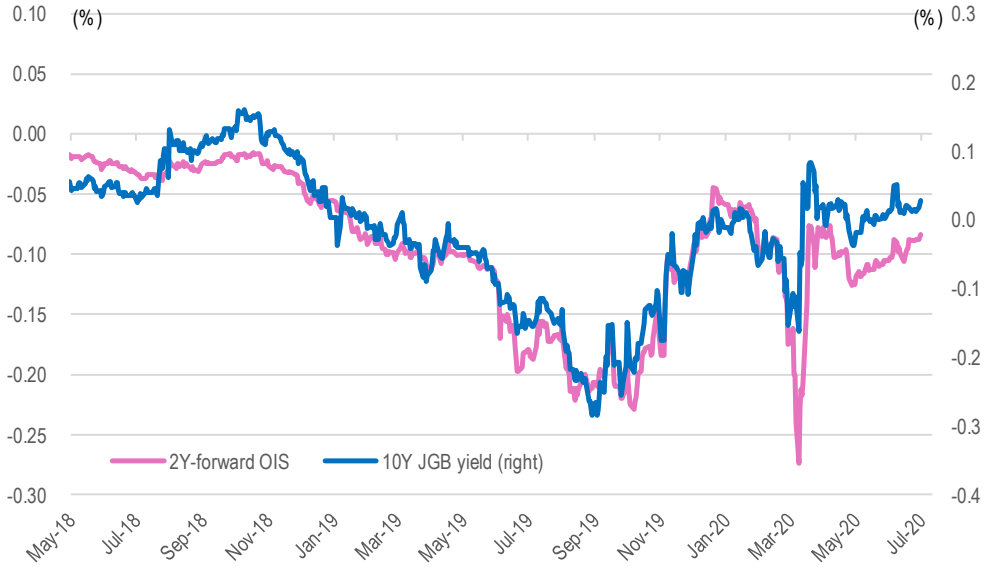
A comparison of the yield curve impacts of the three approaches suggest that the incremental approach would be the weakest. Although the yield on Treasurys with the targeted maturities that have exceeded their target can be lowered to some extent, we think this approach would be less effective in affecting long-term interest rates than the other approaches.

The policy signaling approach would have a stronger impact on the yield curve than the incremental approach. But how does this impact compare with that of the long-term approach? Intuitively, the latter approach of targeting long-term yields would seem to have a stronger impact, but this is not really clear on an a-priori basis.

This suggests the possibility that although the long-term approach has the most direct impact on long-term yields, it may not have that much impact on the near-term path of expectations for the short-term policy rate. The policy signaling approach focuses on bonds maturing over the short-and medium-term but could lower yields across the yield curve through its formation of future short-term interest rate expectations. In other words, when merely announcing a long-term rate target sends a signal to the market that the short-term policy rate will remain low for a longer period than expected, it could have a greater impact on the yield curve than the policy signaling approach.

We expand on this by using some examples that are more specific. Why has the BOJ's YCC policy allowed it to strictly control the term structure of interest rates without massively intervening in the JGB market? It may be that the BOJ was able to hold long-term rates to a range while tapering its JGB purchases because of the market expected its extremely low policy rates, including negative interest rates, would last for an extended period (on account of how difficult it is to achieve the 2% price stability target).

Chart: 10Y JGB Yield and 2Y-forwared OIS



Source: Bloomberg; compiled by Daiwa Securities.

The same thing happened in the 1940s when the Fed implemented its version of YCC. The credibility of pegs with the market relies heavily on inflation expectations and the expected future policy rate. In other words, the actual purchase of Treasurys is only likely to be needed when the announced long-term rate target is not seen by the market as perfectly matched with the expected path of short-term rates. At that point, the Fed could purchase Treasurys to reduce the term premium rather than the "rate expectation" portion to remove duration from the market and guide the long-term rate toward its target.

As this also makes clear, the duration of Treasurys added to the Fed's balance sheet would be the shortest under the incremental approach and the longest under the long-term approach. This is both a benefit and a major risk of the long-term approach. The minutes of the October 2019 FOMC meeting showed that many members were concerned about a policy of long-term rate caps using balance sheet tools.

Former Fed Chairman Ben Bernanke, who led this debate as chairman back in 2010, wrote about this on his blog in 2016[4]: "Targeting very long-term interest rates (say, ten years or more) is considerably more difficult than pegging a medium-term rate (two years, say). [4] He added "Concerns about "losing control of the balance sheet" were a factor behind the Fed's choice of quantitative easing over rate targets while I was chairman."

◆ **Former Fed chair Ben Bernanke (24 Mar 2016)**

・The principal limitations of rate pegs are similar to those of forward guidance: Both tools are relatively less effective at affecting interest rates at longer maturities, and even at shorter horizons both must be consistent with a credible or "time-consistent policy" path for short-term interest rates. That is, for a rate peg to work, market participants must be confident that the FOMC will keep short-term interest rates on a path consistent with the target for the longer-term rate.

[4] Ben S. Bernanke (2016). "What tools does the Fed have left? Part 2: Targeting longer-term interest rates."

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