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In response to the Covid-19 pandemic and subsequent global recession, the US Federal Reserve (Fed) cut its policy rate to zero (0-0.25%) and commenced another round of asset purchases to satiate the incredible demand for liquid assets. In addition to these measures, the Federal Open Market Committee discussed yield curve control (YCC), also called interest rate caps, at their meeting on 9-10 June 2020<sup>1</sup>. The rationale for YCC is either to support economic growth by keeping interest rates low and “financial conditions” loose or to spur inflation when inflation is below target. Whether YCC is effective in this endeavour, and whether central banks can even target long-term interest rates is the topic of this piece.

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Prior to the Global Financial Crisis (GFC), the main policy tool used by the Fed was either lowering or raising the overnight interest rate. Post GFC, several central banks expanded their balance sheet in successive rounds of quantitative easing (QE), which became the primary monetary policy tool after short-term interest rates reached the zero-lower bound (ZLB). Some now believe that the canonical next step is yield curve control, a policy that would mean the Fed targets a specific long-term interest rate and pledges to buy the required amount of US long-term Treasury securities to keep the interest rate from rising above its target. For example, the Fed might target a 2% interest rate on 10-year Treasuries, and if 10-year yields rose above 2% the Fed would step into the market and begin to purchase 10-year Treasuries until the yield fell back below 2%.

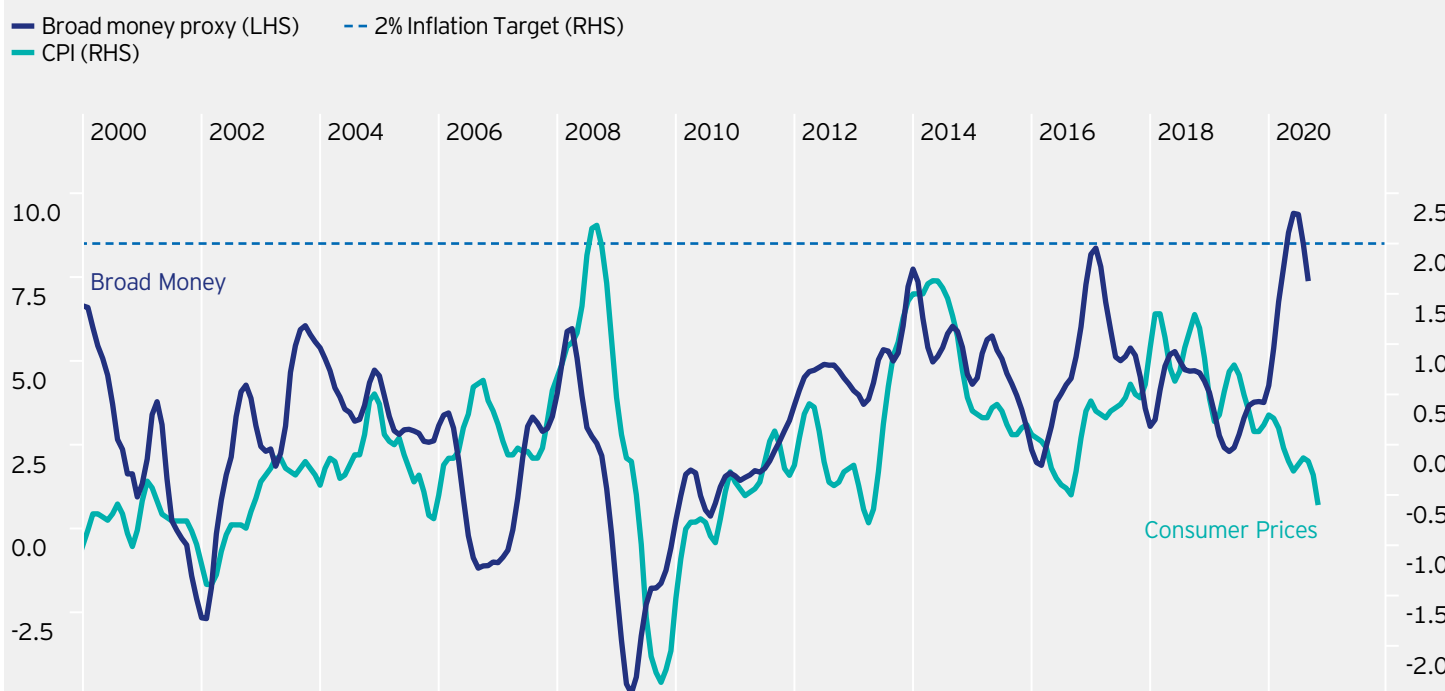
YCC is different in one major respect from QE, the trillions of dollars in bond-buying that the Fed pursued during and after the Great Recession and has pursued in 2020. QE deals in quantities of bonds; YCC focuses on the prices or yields of bonds. Under QE, a central bank might announce that it plans to purchase, for instance, US\$1 trillion in Treasury securities. Because bond prices are inversely related to their yields, buying bonds and pushing up their price leads, at least in the short run, to lower longer-term rates. Under YCC, the central bank commits to buy whatever amount of bonds the market wants to supply at its target price.

Two central banks, the Bank of Japan (BoJ) and the Reserve Bank of Australia (RBA), have already started to experiment with YCC. The BoJ started targeting long-term interest rates from September 2016, whilst the RBA started in 2020 in response to the coronavirus pandemic. On 19 March 2020, the RBA announced a target for the yield on the 3-year Australian Government bond of around 0.25 per cent. On 3 November 2020, the RBA Board announced a reduction of this target to around 0.1 per cent. The RBA stands ready to purchase government bonds in the secondary market to help achieve this target. Since the RBA has only been targeting medium-term interest rates for less than a year, it is probably too early to draw any meaningful conclusions from the programme.

The BoJ committed in September 2016 to peg yields on 10-year Japanese Government Bonds (JGBs) around zero percent, with the intention of boosting inflation which had remained persistently low. However, despite negative policy interest rates, quantitative and qualitative easing (QQE), forward guidance, and now YCC, inflation in Japan has remained muted and below the target of 2% per annum. The fundamental reason for this sub-target rate of inflation is that the rate of money and bank credit growth have remained too low for too long, which is also the ultimate reason for low nominal long-term interest rates. Four years of YCC is plenty of time to judge the efficacy of YCC in Japan: it has not impacted inflation or nominal GDP growth in any meaningful way.

**“Four years of YCC is plenty of time to judge the efficacy of YCC in Japan: it has not impacted inflation or nominal GDP growth in any meaningful way.”**

Figure 1  
**Inflation in Japan has remained below the 2% per annum target since YCC was implemented in 2016**



Source: Macrobond, Japanese Statistics Bureau, Ministry of Internal Affairs & Communications, BoJ, November 2020. (JP Broad Money & Inflation (%YoY 3m Moving Average)).

A more fundamental question than whether YCC has been successful is whether it is even possible for central banks to “set” long-term interest rates via asset purchases/sales in response to market forces. If central banks can set short-term interest rates, why shouldn’t they be able to set long-term interest rates?

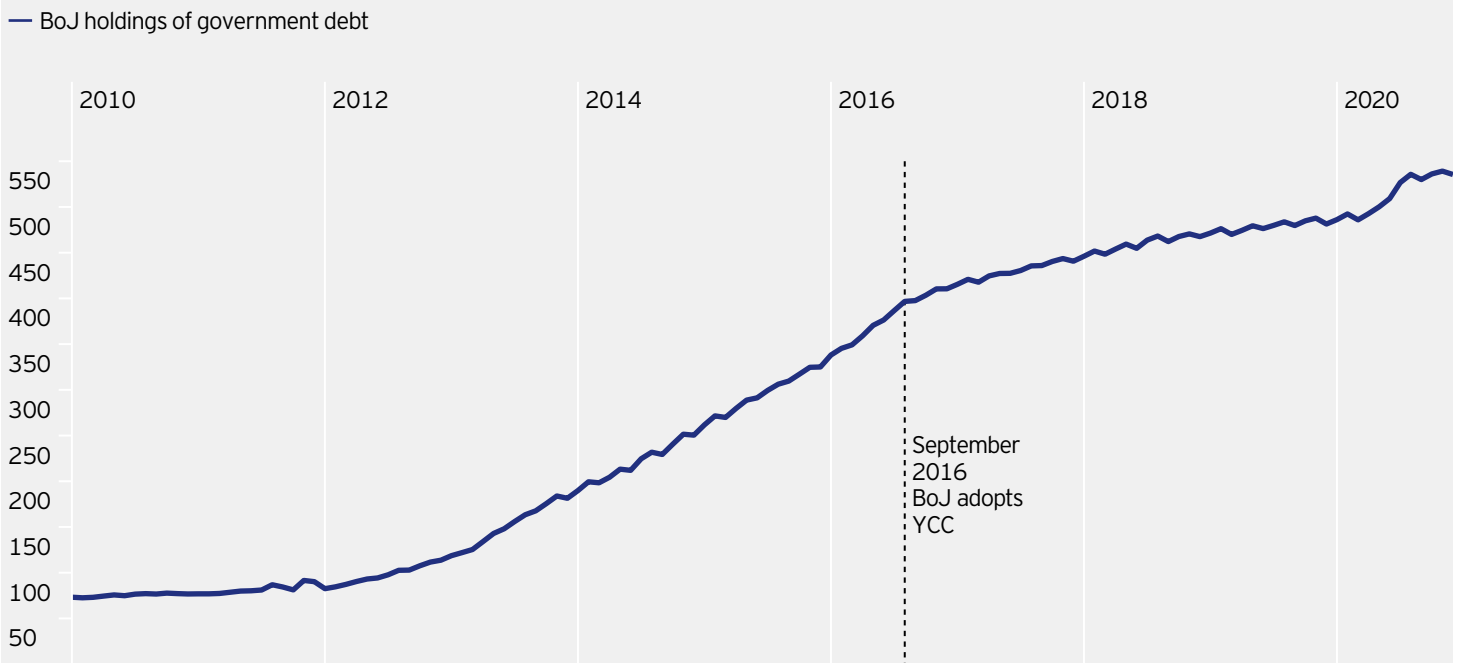
One of the main sources of confusion is the relationship between asset purchases of bonds by a central bank and the interest rate on the bonds. When a central bank purchases a bond, the seller receives a bank deposit in exchange, increasing the money supply if the seller is a non-bank. The first and more transitory effect of this process is lower interest rates. However, as Irving Fisher showed in 1930 in “The Theory of Interest”, the second and more permanent effect is higher interest rates. This results from the creation of more money, which in turn leads to stronger demand for credit as the economy strengthens, and later to higher inflation and a rise in inflation expectations. In effect, the more a central bank attempts to target a certain long-term interest rate, for example 2% on a ten-year yield, the more money is created, and the higher long-term interest rates will rise in a vicious feedback loop. The result will be either an abandonment of YCC (i.e. the targeting of long-term interest rates) or a complete collapse in private demand for long-term bonds which will drive yields even higher.

If this argument is correct, why hasn't YCC in Japan resulted in this “feedback loop”? Some analysts argue that it is because the BoJ dominates the JGB market, owning 40% of the ¥9 trillion market. However, this is unlikely to be the real reason.

**There are two better reasons.**

- 1** First, the BoJ purchases bonds from commercial banks, which fails to increase the money supply, with the result that the QE policy has been far less stimulatory than it would have been if the BoJ had been buying securities from non-banks and thereby creating new money to power growth and spending.
- 2** Second, money and credit growth have been so low for so long that inflation has fallen to negligible levels (Japan's corporate goods price index has fallen on average by 0.1% p.a. since September 2015, while the national CPI has risen on average by 0.4% p.a. and the GDP deflator by 0.5% p.a.).

Figure 2  
**After YCC was implemented in September 2016, BoJ purchases of JGBs declined to one quarter of their previous annual rate - until the onset of the pandemic in 2020.**



Source: Macrobond, Bank of Japan (BoJ), November 2020. (BoJ Holdings of JGBs (¥ trillion)).

**“the more money is created, and the higher long-term interest rates will rise in a vicious feedback loop.”**

In turn these low inflation rates have meant that the equilibrium yield on 10-year JGBs has fallen to levels roughly in line with current market levels (i.e. close to 0%). In other words, BoJ purchases are not having any net effect on yields - neither pushing them down nor pushing them up. This is consistent with the steep decline in BoJ purchases of JGBs between September 2016 (when YCC was announced) and the onset of the Covid-19 crisis, as shown in Figure 2.

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## Conclusion

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If a central bank implements YCC to control long-term yields and conducts its asset purchases in such a way as to expand the broad money supply, it will soon lose control of those yields. As explained above, this is because the central bank's purchases of securities expand money growth, in turn setting up a feedback effect (higher rates) which is the exact opposite of the one that the central bank intended to achieve (lower rates).<sup>3</sup> Following Fisher, however, the higher long-term rates are a sign of success, not failure because they indicate faster nominal GDP growth and higher inflation.

If, however, the central bank purchases securities in such a way that broad money does not expand (as the BoJ or the ECB have tended to do by purchasing securities from banks), there can be no assurance of the negative feedback effect. In this case, supplementing flawed versions of QE or QQE with YCC (in the case of Japan) or negative interest rates (in the case of Japan and the euro area) will not ensure faster broad money growth.

YCC without broad money growth is possible, but basically pointless. However, YCC with broad money growth (buying bonds from non-banks) will fail due to upwards pressure on rates created by inflation. Ultimately, to generate inflation, the authorities such as the BoJ or ECB need to be aggressive about increasing broad money growth (not just the balance sheet of the central bank).

The conclusion is that YCC is not a substitute for a well-designed QE policy. It will be better to ensure that QE is working properly rather than to enter the cul-de-sac of YCC.

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<sup>1</sup> <https://www.federalreserve.gov/monetarypolicy/files/fomcminutes20200610.pdf> (p. 3)

<sup>2</sup> <https://uk.reuters.com/article/us-usa-fed-ycc/yield-curve-control-meant-less-market-intervention-in-japan-ny-fed-idUKKBN23T306>

<sup>3</sup> This was why, under QE1, QE2, and QE3 in the United States 10-year Treasury yields ended higher after each episode of Federal Reserve purchases, not lower.

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## Investment Risks

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The value of investments and any income will fluctuate (this may partly be the result of exchange-rate fluctuations) and investors may not get back the full amount invested.

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