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# Yield curve control: The next logical step

*Fed special*

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**Contents**



## Summary

- The Fed's aversion to negative policy rates makes yield curve control the next logical step in case further across-the-board monetary stimulus is needed.
- What's more, yield curve control can be seen as a complement to forward guidance on policy rates by the FOMC. If the Committee is increasingly going to emphasize yield curve control as reinforcement of forward guidance, they are looking at capping the short to medium term maturities.
- Moreover, yield curve control and asset purchases can be seen as two sides of the same coin. If the FOMC is going to stress yield curve control as an extension of the current asset purchase program, they are looking at capping longer term maturities or the entire curve.
- We identify possible triggers that could induce the Fed into starting yield curve control. The joint probability that none of these events occurs seems small in our view. Consequently, the chance that the Fed will resort to yield curve control is large.
- The strategic implication is that we should not expect much higher US treasury yields: if they rise too much the Fed will cap them.
- In the long run, yield curve control is not without risk for the Fed's independence.

## Introduction

During his semi-annual testimony to Congress last week Fed Chair Powell said that the FOMC had been briefed about the history of yield curve control in the US, Japan and more recently Australia. He stressed that absolutely no decisions had been made. However, he also repeated that the Committee saw no role for negative policy rates in the US. In our view, this means that if more across-the-board monetary policy accommodation is needed in the future, yield curve control is the next logical step for the Fed.

In this special we take a closer look at yield curve control from the perspective of the Fed's current policies. We show that yield curve control would be a logical next step after forward guidance and large scale asset purchases. To which of these policies yield curve control would primarily be a successor will also have implications for the segment of the yield curve that the Fed will target. In the remainder of this report we first discuss the relationship between monetary policy and the yield curve, and the several dimensions of yield curve control. Then we show how yield curve control is related to forward guidance and asset purchases and how this affects the segment of the yield curve that would be targeted by the Fed. Then we show how the Fed's aversion to negative rates has raised the probability of yield curve control and finally we look at the various triggers that would induce the Fed to start yield curve control.

# Monetary policy and the yield curve

Under normal circumstances, the Fed alters its target level or range for the federal funds rate to achieve its goals for inflation and employment. While the federal funds rate is an overnight rate, it will also affect the remainder of the yield curve according to the 'expectations hypothesis', which implies that long term rates can be seen as an average of short term rates (plus a term premium). This is crucial to the effectiveness of monetary policy, because these longer-term rates affect the components of aggregate demand (personal consumer spending, business investment, residential investment) that the central bank tries to stimulate or slow down depending on the phase of the economy. So while the entire yield curve is relevant to monetary policy transmission, the Fed normally only controls the overnight rate.

In case of a recession, the target level or range for the federal funds rate is likely to hit the zero lower bound. Given the Fed's reluctance to take policy rates into negative territory, this would be the end of the Fed's options to affect the yield curve and thus aggregate demand. However, two policies have been used to bring down the yield curve further. The first is forward guidance regarding the federal funds rate. Consistent with the expectations hypothesis the Fed's promise to keep the target range at the zero bound for a sustained period of time should hold down longer term rates. The second is asset purchases, directly pushing down yields at various points on the curve. Both measures aim to reduce the level of the yield curve beyond the overnight rate. However, a central bank can take a step further by announcing specific target levels for segments of the yield curve. This is known as 'yield curve control.'

The last time the Fed used this policy was in the 1940s through the early 1950s. More recently, it has been tried by Japan and Australia. However, in recent meetings of the FOMC yield curve control has become a topic of debate again. In this special we take a brief look at this policy and how it would fit in with the Fed's current policy measures.

# What does yield curve control look like?

Yield curve control can take different forms. It may be helpful to note that there are several dimensions to yield curve control:

- Which segment of the curve is targeted?
- Is the target a cap and/or a floor?
- For how long is the target maintained?

A central bank can announce targets for one or several points on the yield curve. The most extreme form is a fully targeted curve. From mid-1942 through mid-1947 essentially the whole US treasury yield curve was fixed, with a ⅜% target bill rate (13 week) and a 2½% long bond rate (25, 26, 31 year). Intermediate yields were ⅞% (1 year), 2% (10y) and 2¼% (16y). In July 1947 the FOMC abolished its ⅜% target for treasury bills, but it took until the Treasury-Fed Accord in February 1951 to 'liberate' longer-term yields and abolish yield curve control altogether. The Treasury Department had resisted this for years as they benefited from low interest payments. More recently, yield curve control was introduced overseas. In 2016, the Bank of Japan (BOJ) pegged the yield on 10y Japanese government bonds (JGBs) at around zero percent. In March 2020, the Reserve Bank of Australia (RBA) decided to target a 3y government bond yield of 0.25%.

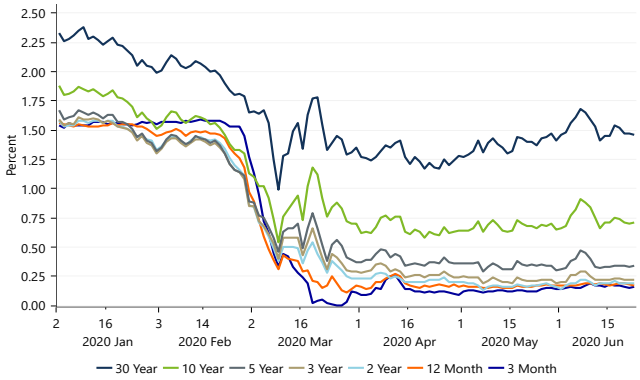
A target can be expressed as a level, but it could also be a cap, a floor, or a combination of a cap and a floor. Note that a level is in fact equivalent to a cap and a floor at the same level. If the cap and the floor do not coincide, we have a range. Note that from the perspective of yield curve control the target range for the federal funds rate can be seen as a combination of a cap (the

upper bound, now 0.25%) and a floor (the lower bound, now 0.00%). In other words, the Fed already has a policy of permanent 'yield curve control' regarding the federal funds rate.

Finally, there is a horizon for the yield target. The longer the horizon, the stronger the impact on the yield curve. For example, suppose the central bank has announced that it is going to hold the 3 month yield at a fixed level for the next 12 months. If the central bank extends this horizon to 24 instead of 12 months, this should push down the entire yield curve even further, if the expectations hypothesis holds.

Yield curve control cannot be seen separately from the two current extraordinary measures taken by the Fed: forward guidance and asset purchases. In the next two sections we discuss how these different policies are connected.

**Figure 1: US treasury yields in 2020**




Source: Macrobond

# Forward guidance and yield curve control

Some in the FOMC are making a connection between yield curve control and forward guidance. According to the minutes of the meeting on April 28-29 they think 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.'* How would this work? As we discussed in The Fed in it for the long haul the dot plot indicates that the FOMC expects to keep the target range for the federal funds rate unchanged at 0.00-0.25% at least through the end of 2022. Suppose that in the coming months the FOMC decides to make this a promise, instead of an expectation. Then it could give forward guidance that it wants to maintain the current target range at least until the end of 2022. Subsequently, the FOMC could reinforce this pledge through yield curve control by capping yields on Treasury securities that mature before January 2023.

Note that this form of yield curve control adds to calendar-based forward guidance, rather than outcome-based. This also suggests that the FOMC should prefer additional forward guidance itself to be calendar-based, if they expect to use yield curve control as an reinforcement of forward guidance at a later stage.

While yield curve control would reinforce forward guidance, it is also the other way around. Forward guidance on policy rate would make a short term yield cap more credible, and that would

reduce the amount of short term asset purchases needed. So yield curve control and forward guidance would reinforce each other[1].

## Asset purchases and yield curve control

The other extraordinary policy measure that the Fed has already taken, asset purchases, is also closely connected to yield curve control. In fact, asset purchase programs and yield curve control are two sides of the same coin if yield curve control is achieved by asset purchases. In case of large scale asset purchase programs (LSAPs) the central bank usually decides on the amounts of bonds that will be purchased without a specific target for the yield. Hence the yield is the outcome of market forces and the Fed's asset purchase program. Yield curve control works the other way around: a target for the yield is specified and the amount of purchases needed depends on the target and the market circumstances.

Credibility of the yield target plays a crucial role: the more credible the target, the smaller the amount of asset purchases needed. As the Bank of Japan found out since 2016 the asset purchases required to keep the 10y yield in place fell after announcing the yield target. This also means that yield curve control could be a logical extension or alternative to LSAPs if the Fed wants to limit its balance sheet expansion and footprint in the government bond markets.

The current LSAP is aimed at smooth market functioning, although the Fed recently admitted that it is also providing monetary policy accommodation. If the latter rational becomes prevalent, the LSAP is increasingly becoming outright quantitative easing. In this case, it could also naturally change into yield curve control, requiring fewer asset purchases.

**Table 1: Evolution of asset purchase programs**

| *Time:* | *Now primarily* | *Now secondarily* | *In the future* |
|---|---|---|---|
| Rationale for asset purchases: | Smooth market functioning ⇨ | Quantitative easing ⇨ | Yield curve control |

Source: Rabobank

## Which segment of the yield curve will the Fed choose?

As we noted, there are several dimensions to yield curve control. One is which part of the curve to target. This is still a topic for debate in the FOMC (as is yield curve control itself). Take this excerpt from the minutes of the April 28-29 meeting of the FOMC: *'Several participants remarked that a program of ongoing Treasury purchases could be used in the future to keep longer-term yields low. 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.'* This shows there is not yet a clear majority for

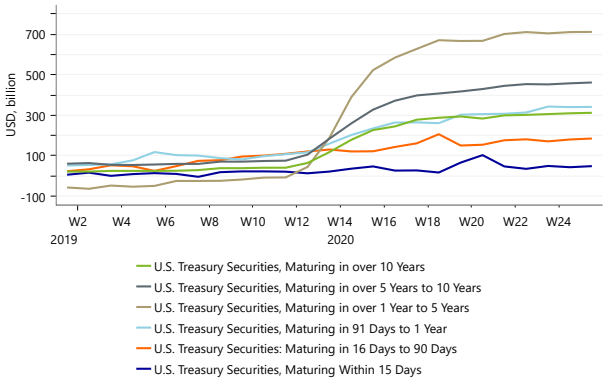
[1] In addition, the dot plot could support both forward guidance - as we explained in How flat is the dot plot? - and caps on short- to medium-term yields.

targeting any particular segment of the curve. In fact, it seems that most participants are still thinking about yield curve control in general.

Note that the use of yield curve control to reinforce forward guidance implies a focus on short- to medium-term maturities. So if we are going to see an increasing emphasis on the complementarity between forward guidance and yield curve control, this would suggest that the FOMC is increasingly looking at the short end and the middle of the curve. In contrast, if yield curve control is discussed as an extension of the current asset purchases, then they are looking at the longer end of the curve (suggested in the minutes) or the curve as a whole (suggested by the current asset purchases, see Figure 2). The Fed's current asset purchases to support smooth market functioning are conducted 'across a range of maturities' according to the New York Fed website. The evolution of the Fed's balance sheet shows that in practice this means an emphasis on 1 to 5 years, followed by 5 to 10 years, then about equal amounts of over 10y and 91 days to 1 year.

As mentioned earlier, in the 1940s the Fed essentially fixed the entire curve. At present Japan has a target for the 10y government bond yield and Australia for the 3y yield.

**Figure 2: Change in Fed's holdings of treasury securities (year-on-year)**




Source: Macrobond

# Aversion to negative rates

As mentioned earlier, in addition to slashing the target range for the federal funds rate to zero, the Fed has taken two extraordinary measures: forward guidance on policy rates and large scale asset purchases. However, two extraordinary measures the Fed has not yet taken are negative policy rates and yield curve control. The Fed's aversion to negative rates, which we discussed in Negative rates: A bridge too far for the Fed?, actually makes yield curve control more likely if further across the board monetary stimulus is needed. Meanwhile, the Fed still has many directions in which to expand its special lending facilities, but these are more targeted measures, see for example Alphabet Soup. However, by restricting its policy rate space, the Fed will have to look beyond overnight rates to provide more across-the-board monetary stimulus.

**Table 2: Extraordinary measures to provide across-the-board monetary stimulus**

| *Measure* | *Policy rate* | *Asset purchases* |
|---|---|---|
| In place | Forward guidance √ | LSAP √ |
| Not yet in place | Negative rates X | Yield curve control ? |

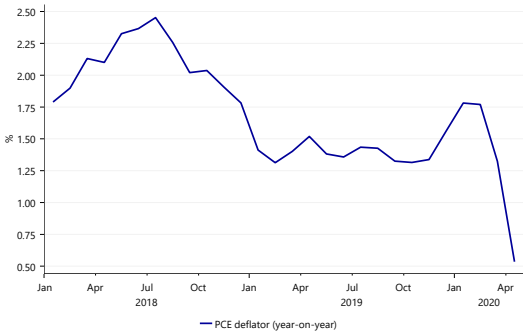
Source: Rabobank

# Triggers for yield curve control

What could trigger the Fed into starting yield curve control? Broadly speaking, we can distinguish between yields themselves being a trigger and developments in the economy and (other) financial markets that could entice the Fed[2].

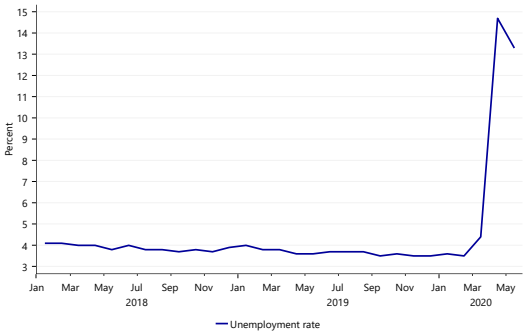
First, consider the yield levels. The Fed has cut policy rates to the zero bound in order to support the economic recovery. However, the interest rates that affect aggregate demand are only indirectly affected by policy rates, which sit at the very short end of the curve. The interest rates that influence decisions regarding personal consumer spending, business investment and residential investment are usually longer term rates. Therefore, monetary policy can only be effective if these rates stay low as well. However, if they rise by more than the Fed finds desirable from the perspective of supporting the economy, yield curve control – in particular a cap on longer-term yields – would be an effective tool to maintain the amount of monetary policy accommodation that the Fed wants to provide. An unwanted rise in yields could occur if bond markets become too optimistic about economic growth and/or going to price in higher inflation than the Fed[3] considers realistic. An undesirable increase in yields may also be caused by the financing needs of the Treasury Department. Given the large fiscal stimulus packages implemented by the federal government, the budget deficit could rise to 18% of GDP in FY2020. The resulting rise in Treasury issuance could push up yields[4] too fast, both from a monetary and a fiscal policy perspective. In fact, in the 1940s yield curve control was part of the debt management of the Treasury Department.

**Figure 3: Inflation**




Source: Macrobond

**Figure 4: Unemployment**




Source: Macrobond

Besides rising yields, macroeconomic developments could be a reason for the Fed to start yield curve control. Suppose the economic recovery disappoints and/or inflation falls too low or recovers too slowly, and the Fed does not want to take its policy rates into negative territory, then they could add monetary stimulus by capping segments of the yield curve. So even if yields remain at current levels, the macroeconomic outlook could spur the Fed into yield curve control.

[2] Here we discuss triggers from the perspective of yield caps rather than floors, since this seems the most relevant at present.

[3] In the latter case this could lead to yield curve control if the Fed judges that the risk from higher yields to the economic recovery outweighs the risk of higher inflation expectations.

[4] However, in the current situation the economic outlook – both at home and abroad - and the Fed's LSAPs and forward guidance will continue to exert downward pressure on US treasury yields (as well as structural demand as we discussed in Undercurrents in the UST market several years ago). Nevertheless, if the balance is disturbed and yields rise too much this could trigger the Fed into starting yield curve control.

In fact, we could even see a decline in yields leading to yield curve control in case of financial market turmoil, such as a collapse in stock prices. While this may appear counterintuitive, remember that – before the zero bound is reached – the Fed also tends to cut policy rates when the economy slides into recession and treasury yields fall. In this case yield curve control reinforces forward guidance and promises investors that longer-term rates will remain low for an extended period as well.

Note that each of these triggers could in itself be enough to spur the Fed into action: an unwanted rise in yields, a deterioration in the economic outlook, low inflation, stock market panic. The joint probability that none of these events occurs seems small in our view. Consequently, the chance that the Fed will resort to yield curve control is large.

# Conclusion

Given the Fed's aversion to negative policy rates, yield curve control is the next logical step for the Fed to take in case another across-the-board monetary policy impulse is seen as warranted. Yield curve control would also be a complement to forward guidance and an extension of the current asset purchase program aimed at smooth market functioning.

With several possible and likely triggers, the chance that the Fed will resort to yield curve control is large. The strategic implication is that we should not expect much higher US treasury yields: if they rise too much the Fed will cap them. After all, the Fed seems to like the current yield curve: Powell thinks that monetary policy is now 'in a good place.' If the Fed starts yield curve control because of rising yields, we should expect yields to remain around current levels. If they start because of adverse macroeconomic or financial developments, they could push them even lower.

In the long run, yield curve control is not without risk for the Fed's independence. As they found out in the 1940s, it may be easier to get into yield curve control than out of it. After all, yield curve control does not only benefit aggregate demand, but also the Treasury Department. With rising federal debt yield curve control may become a hard habit to break. Of course, the Fed has become more independent from politics since the early 1950s. However, in the end the Fed reports to Congress (semi-annually).

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