

# Analysis of bond market sensitivity to economic news when monetary policy is constrained by limitations: an ALM desk perspective

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## *Bond yields' diminished responsiveness to economic data*

During, and in the immediate aftermath of, the global financial crisis, the conduct of monetary policy saw a radical transformation. The traditional monetary policy instrument, the interest rate, lost its relevance after the zero lower bound (ZLB) was hit. That situation had the central banks across the advanced world to think about out-of-box or unconventional monetary policy steps. Quantitative easing (QE) was one of the most touted policy steps then, and it was believed to have supported the economy primarily through the portfolio balance channel. With financial markets' reliance on central banks as a liquidity provider reaching its peak, the latter's probable policy actions started increasingly influencing the way the former respond to economic news or data releases.

A study by Moessner and Rungcharoenkitkul (2019) shows that yields on the short end of the curve becomes less responsive to economic news when the probability of ZLB increases. This is because market participants tend to believe that the central bank could not ease further once the ZLB is hit. Such a muted response to economic news could spread along the yield curve, if forward guidance about an extended accommodation is in place. True, central banks do have alternate monetary policy tools in a zero lower bound environment. But the longer such policies are in place, the greater the risks to financial stability. Importantly, successive rounds of unconventional policies will eventually result in diminishing returns.

This article is an attempt to analyze the potential ramifications that a shift in the bond markets' sensitivity to economic news would have for asset liability management (ALM) strategies. Besides, we strive to give an account of recently emerged perspectives of a key topic in monetary economics -- persistent downward trend in term premia -- and how they could influence ALM strategies. Traditionally, it has been believed that low term premia is largely a result of weak growth prospects and subdued inflation outlook. However, Domanski et al (2015)<sup>1</sup> showed that attempts to contain duration mismatches by certain long-term investors may have amplified downside pressure on term premia during a declining interest rate scenario. We attempt to highlight the importance of bank treasury managers being aware of this phenomenon.

## *A binding zero lower bound and its impact*

The ability to increase or decrease the interest rate is the most powerful instrument that the central bank has at its disposal. But there is a limit to the extent that this can be used -- once policy rates reach the zero lower bound, this instrument will become almost ineffective. This was precisely the main reason why central banks explored other options during the global financial crisis, when short-term rates were cut essentially to zero in major economies. In fact, major central banks such as the European Central Bank (ECB) tried to maximize the monetary policy's effectiveness by getting into the negative territory. But maintaining unconventional monetary policies for an extended period of time will adversely impact the economy by fueling excessive risk-taking and putting pressure on financial institutions' profitability (which could in turn affect credit availability). As a result, interest rates over relatively short maturities will start to reflect these constraints imposed on monetary policy. While the zero bound being a one-sided constraint contributed to the reduction in the sensitivity of short-term rates to negative shocks, forward guidance made them less responsive to positive shocks. In other words, bond yields exhibited more or less the same magnitude of reduction in the responsiveness of yields to both positive and negative announcements.

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<sup>1</sup> Domanski et al used evidence from the German insurance sector to substantiate this. The similar amplification mechanism may have been created by portfolio adjustments by MBS investors to minimize the potential impact of the prepayment risk

*Negative interest rates, is there a limit?*

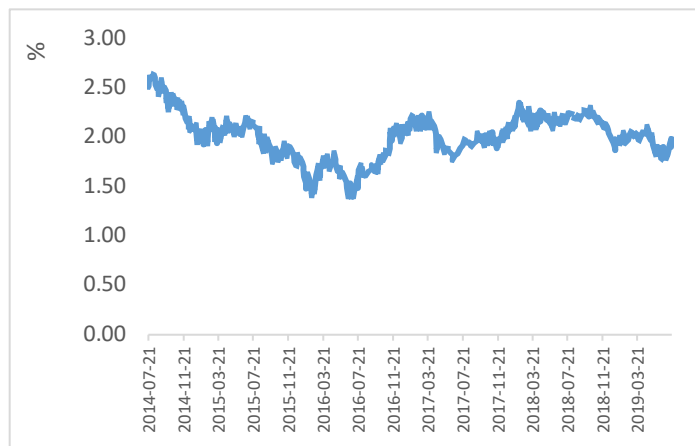
To triumph over the perception that the zero lower bound constrains the central bank's ability to deliver additional monetary easing, a growing number of central banks experimented with negative interest rate policies. This essentially means that the central bank charges commercial banks on their excess reserves, instead of paying them interest rates. The main motive behind this unconventional policy step is to get banks to lend to businesses, thereby stimulating the economy. The negative interest rate policy, famously known as NIRP, is believed to stimulate the economy through three channels: interest rate, portfolio and exchange rate. But bankers cannot lower deposit rates below zero, for the fear of losing their deposit base, so the pass-through of NIRP to lending rates will be incomplete. Unless a meaningful decline in funding costs, banks do not have incentives to lower borrowing costs, hence the interest rate channel being left less effective.

That said, it is believed that NIRP's other transmission channels could produce desired results, but only when rates go modestly below zero and such policy is not employed for a prolonged period of time. So what does this mean? If policy rates approach the zero lower bound, the belief that monetary policymakers have an additional instrument in their toolkit will still be alive, which should cause market interest rates to be somewhat sensitive to economic news. Nonetheless, that belief could gradually be banished by the limits on the extent to which rates can go below the zero bound.

*Has term premia been compressed by economic factors alone?*

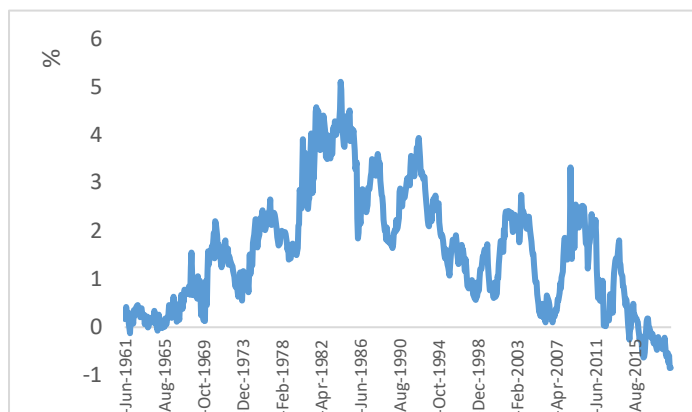
As is well known, treasury yields are comprised of two elements: expectations of the future path of short-term interest rates and term premium. The latter tends to increase when there is a great deal of uncertainty over the future path of short term interest rates, which could be caused by the fear of inflation. Given uncertain global growth and subdued inflation expectations, market participants did not see any risk to the future path of short term interest rates, which explain why U.S. long-term yields remained extremely low in 2016.

Figure 1: 5-Year, 5-Year Forward Inflation Expectation Rate (daily)



Federal Reserve Bank of St. Louis, 5-Year, 5-Year Forward Inflation Expectation Rate [T5YIFR], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/T5YIFR>, July 20, 2019

Figure 2: Trend in 10-yr treasury term premia



Source: Federal Reserve Bank of New York. Note: Term premia given here is estimated by New York Fed economists Tobias Adrian, Richard Crump, and Emanuel Moench

Portfolio adjustments by certain investors may have put further downward pressure on interest rates during that time. For instance, the presence of prepayment risk makes the convexity of mortgage-backed securities (MBS) negative. As a result, in a falling yield scenario, the value of such securities will not increase as fast as long-term bonds. Thus, to adjust for this shortfall, MBS investors will need to add more longer-dated bonds to their portfolios, thus pushing yields further down. In Europe, long-term investors such as insurers and pension funds played this role. Attempts to

contain mismatching of their assets and liabilities, created by falling yields, by adding more longer-dated bonds may have amplified declines in long-term interest rates (Domanski et al, 2015).

#### *Implications for the ALM desk*

The ALM desk majorly deals with managing liquidity and interest rate risks. Basically, it takes a view on interest rate moves and the yield curve, which will be reflected in assets and liability positions of the bank. If the desk strongly believes that the interest rate will decline over the near term, it may prefer to have underfunded positions and cover the gap with short-term funds, thereby benefiting from expected lower rates. In case interest rates are expected to increase, the ALM desk ought to maintain overfunded position by locking long-term funds at low interest rates. A conservative approach is to match time profiles of assets and liabilities; such a practice, although less risky, does not allow for taking advantage of future market conditions. There are three reasons why the ALM desk needs to take into account changes, if any, in the way market rates respond to economic news, caused by changes in monetary policy as well as economic conditions, and a persistent downward trend in term premia while designing strategies.

First, when interest rates approach the ZLB, reactions of short maturities to economic news will become attenuated. This development could have a bearing on market positioning ahead of key data releases. For instance, in the absence of ZLB, the ALM desk usually maintains a cautious stance on leaving assets underfunded ahead of key events that have the potential push short term rates higher. But its approach will be different when monetary policy is restricted by the ZLB and forward guidance is in place, both could dampen markets' sensitivity to news. This is not to say that the ALM desk should completely ignore such events but rather that short term rates would not be as volatile in such situations as they are during the period when the ZLB is absent.

Second, forward guidance together with quantitative easing was the most popular unconventional monetary policies used during the years spanning the global financial crisis. Forward guidance mainly operates through influencing people's expectations about the path of future short-term interest rates. By extending the duration of forward guidance, the central bank can influence long-term yields as well. Forward guidance found its application not only when the ZLB was hit but also during policy normalization – a commitment to gradual policy normalization had helped the Fed depart from the ZLB without causing large, persistent volatility in financial markets. When forward guidance is introduced, it is important to understand about its nature, key features and duration, so as to get a better sense of directions in which it could drive yields.

And finally, as explained before, subdued inflation outlook and portfolio adjustments by certain type of investors were believed to have exerted strong downward pressure on term premia. Despite the possibility that bringing policy rates closer to zero will tend to lift investor sentiment, actions of certain investors, mostly driven by low interest rates, should continue to leave strong pressure on term premia, thereby effectively restricting its gains. The persistent downtrend in term premia does have implications for the ALM desk. Borrowing shorter tenors and lending these funds for longer maturities, commonly known as maturity transformation, is a popular practice in the banking, and if term premia continues to remain extremely low, this strategy could turn out to be less profitable. So banks need to identify alternate strategies in such environments.

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