

Whitepaper

Negative interest rates: An unlikely scenario in the United States

Although we believe that negative interest rates are possible from a supply and demand perspective, we think it is unlikely that the U.S. will see negative rates at short, medium, and long durations.

As of August 31, 2019, approximately \$16.8 Trillion worth of non-U.S. dollar global debt, mostly sovereign bonds in Europe and Japan, traded at negative yields.¹ (See exhibit 1) Global interest rates in developed markets have followed a downward path over the last 30 years, and extrapolating that trend, it may seem only a matter of time before U.S. rates go into negative territory as well. That being said, we believe that, for both political and economic policy reasons, the scenario of negative interest rates in the U.S. may be unlikely. In the event of a U.S. recession,² the U.S. Federal Reserve (Fed) will likely cut short term rates from current levels and potentially implement near-zero interest rate policy, as was the case in the wake of the global financial crisis.³ However, unless extreme (and potentially desperate)

measures are required, we believe it would be unlikely that the Fed will aim to bring policy rates below zero. The long-term consequences of negative rates globally are still inconclusive, and the negative consequences could potentially outweigh the benefits. This paper further investigates why negative rates are conceptually possible, but also why they are unlikely to occur in the United States.



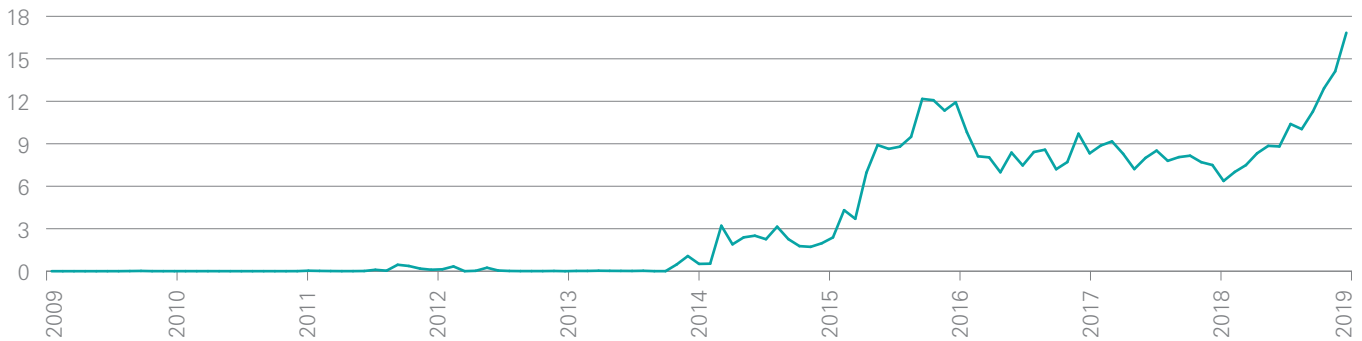
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¹ A bond is said to be negative yielding, when the total amount of interest paid over its lifetime is less than the premium or greater than face value price paid for it when purchased.

² Recession is defined as the economy contracting for two successive quarters or more loosely when output declines.

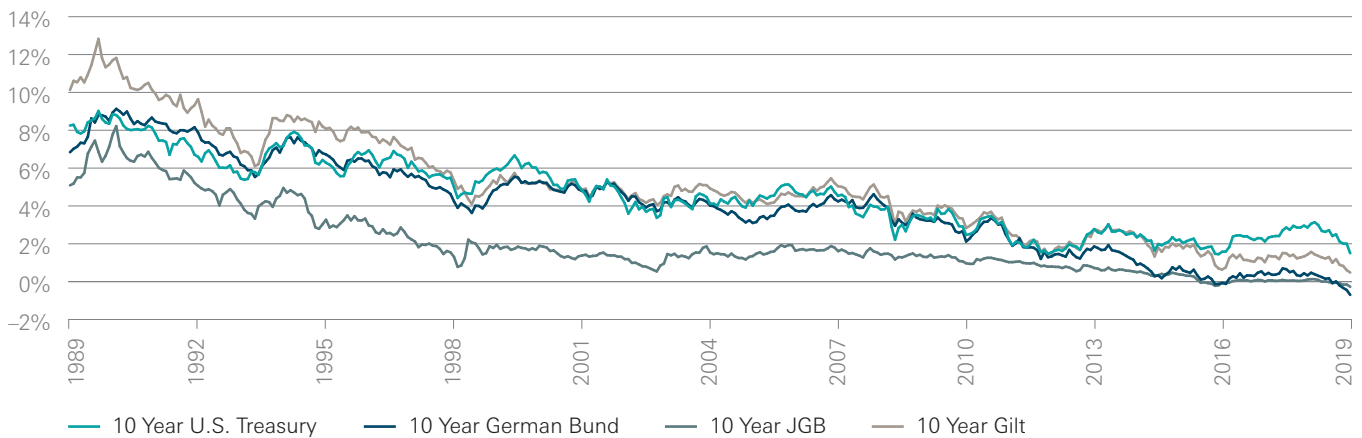
³ The global financial crisis refers to the period of market turmoil that started in 2007 and worsened sharply in 2008 with the collapse of Lehman Brothers.

EXHIBIT 1: BLOOMBERG BARCLAYS GLOBAL AGGREGATE NEGATIVE YIELDING DEBT INDEX (USD trillions)



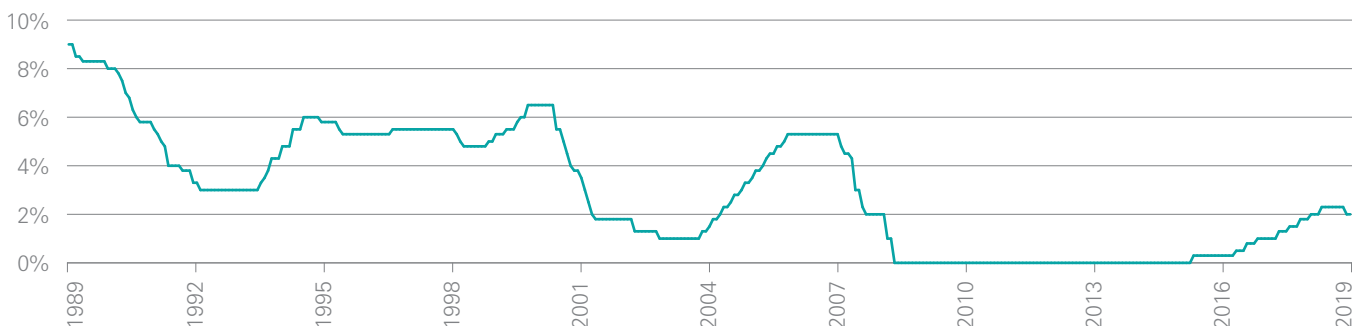
Source: Bloomberg as of 8/31/2019. The Bloomberg Barclays Global Aggregate Negative Yielding Debt Market Value Index measures the stock of debt with yields below zero issued by governments, companies and mortgage providers around the world which are members of the Bloomberg Barclays Global Aggregate Bond Index. The Bloomberg Barclays Global Aggregate Bond Index is a measure of global investment grade debt from twenty-four local currency markets. It includes treasury, government-related, corporate and securitized fixed-rate bonds from both developed and emerging market issuers. It is not possible to invest directly in an index. May not be indicative of future results.

EXHIBIT 2: 10 YEAR TREASURY, BUND, JGB, AND GILT YIELDS OVER 30 YEARS



Source: Bloomberg as of August 31, 2019.

EXHIBIT 3: FEDERAL FUNDS TARGET RATE LOWER BOUND



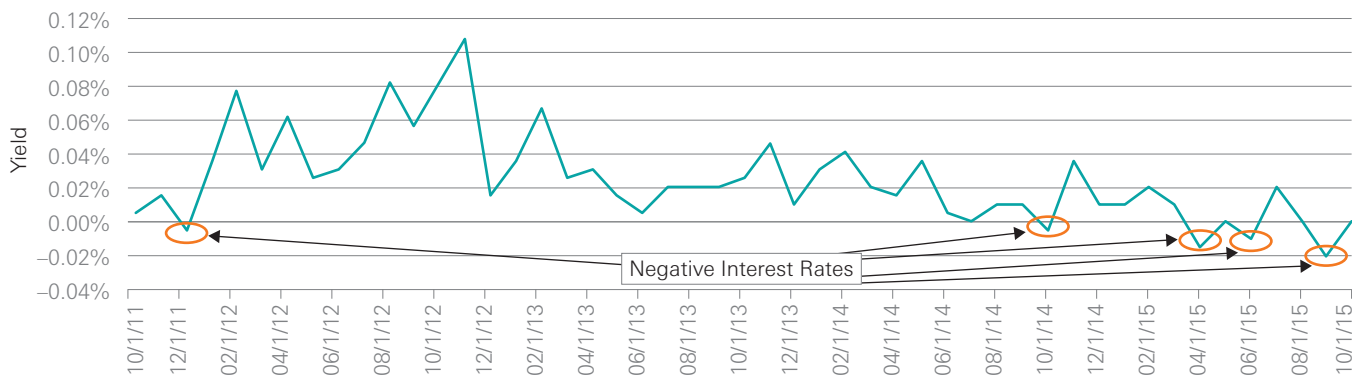
Source: Bloomberg as of August 31, 2019.

Why negative rates are possible in the U.S.

Theoretically, there is no hard floor for U.S. interest rates. Demand and supply for treasury debt can cause rates to fluctuate wherever the market determines. In fact, in the

recent past, 1-month Treasury bills had negative yields at times as shown in Exhibit 4.

EXHIBIT 4: U.S. GENERIC GOVT1 MONTH YIELD (10/31/2011–10/30/2015)



Source and as of date needed. Need to provide the index or definition of the “U.S. Generic Govt 1” represents. Range of data is from 10/1/2011 through 10/1/2016. Results may not be the same for different date ranges.

With a record amount of global debt currently trading at negative yield, it seems a reasonable conclusion that market forces could drive U.S. Treasury yields more broadly below zero. The presence of large, global, yield-strapped buyers of U.S. Treasuries could potentially put downward pressure on long term U.S. interest rates. Moreover, not only foreign bond buyers but also poor U.S. economic fundamentals could prove to be a similar catalyst. As an example, if the U.S. economy weakens, demand for U.S. Treasury securities¹ could accelerate and drive interest rates down further. So, if global growth continues to slow, and the U.S. economy dips into a recession, we may see already-low treasury rates go even lower and potentially into negative territory.

Another perspective to consider is that of U.S. policymakers. It is difficult, although not impossible, to envision negative term rates for U.S. Treasuries in the absence of a negative Fed policy rate. The Federal Reserve has not explicitly

precluded the possibility that it could one day set short term target rates below zero. In fact, in a recent interview, former Fed Chair Alan Greenspan mentioned that “there is no barrier for U.S. Treasury yields going below zero...zero has no meaning, besides being a certain level,” and former Fed Chair Janet Yellen publicly stated that she “wouldn’t take [negative rates] off the table.”^{2,3} However, the Federal Reserve has indicated that it would be extremely cautious before resorting to such an action.

Globally, markets such as Japan and the Eurozone have already been seeing negative policy rates, as central banks around the world try to combat slowing growth and changing demographics that hint at an emerging global secular trend of lower economic growth for longer. In fact, it is possible that neutral rates (i.e. the rates that support economies at full employment and maximum output while keeping inflation constant) can go lower, worldwide, due to a global growth slowdown. But, arguably, such negative

¹ Treasury securities are often considered to be a safer option during times of economic weakness.

² Source: <https://www.marketwatch.com/story/ex-fed-boss-greenspan-says-there-is-no-barrier-to-treasury-yields-falling-below-zero-2019-08-13>

³ Source: <https://money.cnn.com/2016/02/11/news/economy/negative-interest-rates-janet-yellen/index.html>.

interest rate policies to date have had limited success in jump-starting economies, and in a way show that monetary policy may have reached its limits. In fact, Mario Draghi of the European Central Bank (ECB) recently announced new rules that aim to dampen the potential impact that negative

rates have on banks by exempting some of the funds that banks park at the ECB from negative rates, also called tiering. A recent Bloomberg Opinion article outlined the conundrum of lowering already-negative rates eloquently:

“Consider where all this leaves the ECB. If its negative interest rates didn’t prod banks to lend more liberally so far, why will making rates a sliver more negative do so now? There’s a limit to how negative rates can get, and the new tiering—which acknowledges the stress this policy inflicts on the banks—is an admission that going any further might actually reduce bank lending”¹

So, although negative policy rates currently are a reality globally, evidence that they may not be working has been cropping up; and that may prompt U.S. policymakers to consider avoiding negative interest rate policy as a result.

Why we believe negative rates may be unlikely in the U.S.

Though there may be no natural limit on how low interest rates can go (at short, medium, and long durations), there are many interesting arguments—from a policy perspective and also from a common-sense perspective—that point to the unlikelihood of seeing negative rates in the U.S.

Policy perspective

The Fed’s September 2019 dot plot for interest rates² showed that no current monetary policymakers see negative short term rates on a look-forward basis, and Fed Fund futures (the market’s best guess for where the Fed Funds rate may be heading) out to 2021 are also not projecting a negative Fed Funds rate.

From the Fed’s perspective, the U.S. economy appears to be stronger than the economies of the Eurozone and Japan. With U.S. stocks near all-time highs, the U.S. labor market

continuing to show strength, and general U.S. economic data coming in strong, negative policy rates in the near term seem unlikely. In our view, the future outlook for U.S. growth along with upcoming economic data releases would have to worsen dramatically for the market to expect, and for the dot plot to predict, sub-zero U.S. interest rates.

For the Fed, an important consideration is the experience of foreign markets when contemplating negative interest rates. As mentioned earlier, negative rates abroad have not been showing a clear signal of success. In August 2019, the Federal Reserve Bank of San Francisco published a paper that examined Japan’s experience with negative rates. The paper found that historically in an economy that already is experiencing low inflation expectations, negative rates can actually further lower those inflation expectations (even though the intended effect of negative rates is to raise inflation expectations). We think this result gives the Fed good reason to hesitate when it comes to implementing negative interest rate policy. The paper acknowledged, however, the possibility that the decline in inflation expectations may have been worse had negative rates not been introduced. However, it is impossible to know for sure since one cannot directly observe how the economy would have fared otherwise, without negative rates in place. As the paper summarized:

¹ Source: <https://www.bloomberg.com/opinion/articles/2019-09-12/draghi-s-ecb-rate-cut-isn-t-enough-on-its-own-to-avoid-recession>.

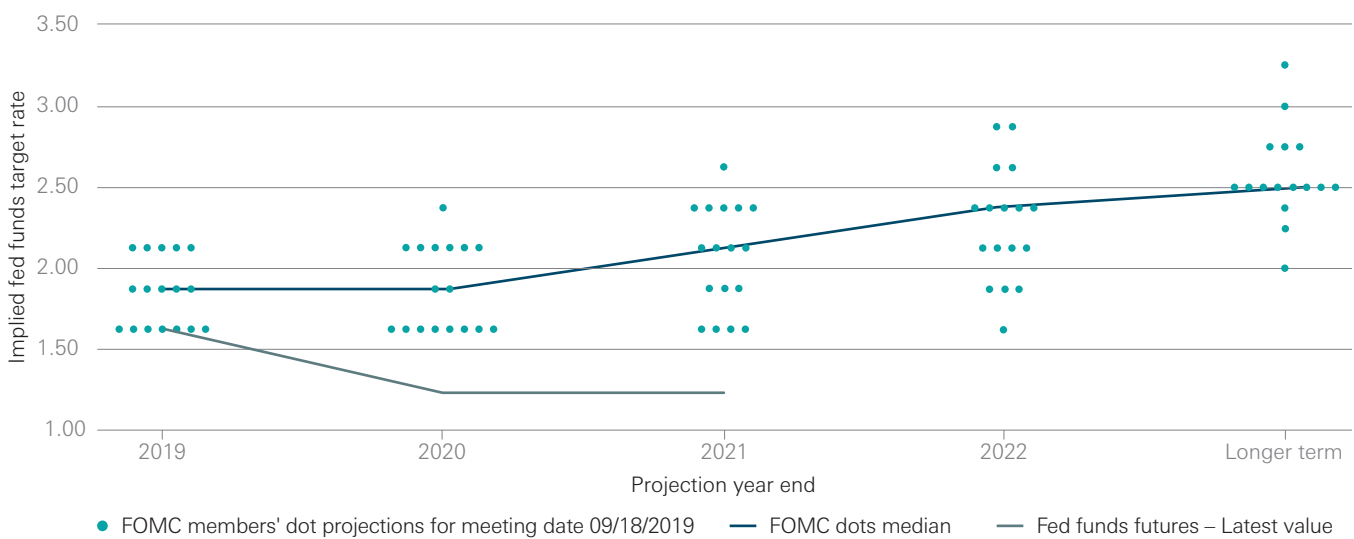
² The dot plot is a chart that records each Fed official's forecast for the central bank's key short-term interest rate.

“We examine movements in yields on inflation-indexed and deflation-protected Japanese government bonds to gauge changes in the market’s inflation expectations from the BOJ moving to negative policy rates. Our results suggest that this movement resulted in decreased, rather than increased, immediate and medium-term expected inflation”¹

While the Fed closely observes the experiences of the Eurozone and Japan, without seeing clear evidence that negative sovereign rates can stimulate economic growth, we believe the Fed will likely remain in wait-and-see mode before implementing negative interest rate policy. That said, the Fed

did consider negative rates in 2010. But, Janet Yellen said that the Fed decided against them at that time “because negative rates would hurt money market funds, which play a key role in market liquidity for corporations and governments.”²

THE FED'S NEW DOT PLOT



Source: Bloomberg as of 9/18/2019

In addition, some other thoughts to consider when it comes to negative interest rate policy concern medium and long term rates. There tends to be a self-fulfilling-prophecy nature to Federal Reserve communications concerning future interest rates. For instance, if the Fed appears to be too accommodative (which could occur if long term rates drop below the level of inflation) it could inadvertently signal that it sees signs of recession. This in turn could dampen growth, inflation, and future interest rate expectations and spur

market participants to pour capital into treasuries, driving long term rates even lower. This is why, in a low-growth environment, policymakers would probably prefer to signal that inflation, growth, and consequently rates will all rise in the future. In other words, all else equal, policymakers prefer to see an upward sloping yield curve, supporting the case against seeing negative long term rates in the U.S. as a policy. The current bow shape of the yield curve (i.e. the 1- month Treasury yield is higher than the 10- year yield, but

¹ Source: <https://www.frbsf.org/economic-research/publications/economic-letter/2019/august/negative-interest-rates-inflation-expectations-japan/>
² Source: <https://www.usatoday.com/story/money/2016/02/11/yellen-negative-interest-rates-not-off-table/80224866/>

both are lower than the 30-year yield) is therefore important because it implies that after rates go down from today's levels, they should rise again in the future. Consistent with this message is recent talk by the U.S. Treasury to issue longer-dated bonds (i.e. 50- and 100-year U.S. Treasury Bonds), which could help boost long-term yields.

Does this make any sense?

Negative rates can be intuitively difficult, and they can potentially distort markets. In a normal positive-interest-rate environment, borrowers pay to service their debt, whereas in an abnormal negative interest rate environment, borrowers receive payment for carrying debt. This just sounds wrong, and if negative rates spread to corporate bonds, it could distort markets. To demonstrate this, consider an extreme hypothetical example, in which companies could borrow at a negative rate (keep in mind that, to date, negative rates have predominantly impacted sovereign bonds globally). There is a difference between lowering the cost of leverage and a negative cost of leverage. On one hand, when interest rates fall, it becomes less costly for companies to borrow money, which should, in theory, spur corporate investments. On the other hand, as interest rates get lower and lower, this could have an unintended side-effect of enabling weak firms to more easily service their debt. But, even in a low rate environment, companies that cannot make their debt payments will eventually fail.

However, in a negative interest rate environment, more leveraged companies¹ would effectively receive payment for holding debt, which would encourage them to remain as going concerns (i.e. "zombie companies") into perpetuity. Though this example is extreme, and hypothetical (as a weak company, even in a negative rate environment, would still likely face positive debt-servicing costs² since the spread³ of its bond yields over duration-matched⁴ treasury yields would likely be larger than the treasury yields are negative), it arguably highlights an economic inefficiency associated with negative interest rates—negative rates can potentially misallocate investor capital to unproductive

entities (which could ultimately lead to financial instability and harm long-run gross domestic product (GDP) growth).⁵

Negative rates can potentially create other problems. From a discount rate⁶ perspective, already inflated asset prices could become even more inflated. Furthermore, imagine if negative rates were passed to U.S. savers. Since consumption is the largest component of U.S. GDP, if consumers experienced a loss of savings from negative rates, consumption and GDP growth could suffer as a result (even though the theoretical intended effect of negative interest rates would be to boost spending, the desired result may not occur in practice). Lastly, imagine how the country could get out of negative rates once they start. In the event that negative rates have the unintended effect of slowing the economy, then what should policymakers do? Making rates more negative is not likely to solve the issue, and raising rates (even negative ones) would be akin to tightening monetary policy⁷, which could slow the economy even further. To us, that sounds like a lose-lose situation or, less gently, a "negative rates trap." It is possible that Europe is experiencing this currently.

Conclusion

Although we believe that negative interest rates are possible from a supply and demand perspective, we think it is unlikely that the U.S. will see negative rates at short, medium, and long durations. Currently, in our opinion, it seems that negative rates will remain unlikely from a U.S. policy perspective until the Federal Reserve sees concrete evidence from overseas that negative rates work. Additionally, we feel that policymakers may desire to circumvent a potentially market-distorting outcome in the U.S. that not only may harm consumer sentiment but also may have no logical way out. Negative interest rates are a new phenomenon, globally; their long-term persistence remains to be seen.

¹ Companies that typically borrow money to help finance their assets.

² Debt servicing costs represent the rate of interest on amount outstanding and fees associated with financing arrangements.

³ In this case, spread is a synonym for "the difference".

⁴ Duration refers to sensitivity to interest rates.

⁵ This is so because it stands to reason that without financial stability, consumers are less likely to consume reducing demand for goods and services produced.

⁶ In this case, the discount rate refers to an appropriate opportunity cost of capital that can be used in a DCF (or discounted cash flow) analysis used in valuing assets.

⁷ Raising short-term rates could increase cost of borrowing.

Definitions

Bunds are issued by Germany's federal government, most frequently with a maturity of 10 years, and are the German equivalent of U.S. Treasury bonds.

The European Central Bank (ECB) is the central bank for the Eurozone.

The Eurozone, also called the euro area, is a monetary union of 19 of the 28 European Union (EU) member states which have adopted the euro as their common currency.

Gilts are bonds that are issued by the British Government.

Sovereign bonds (also referred to as sovereigns) are bonds issued by governments.

U.S. Federal Reserve implements U.S. monetary policy.

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