



INVESTMENT UPDATE

On their face, negative interest rates don't make a lot of sense. After all, what banker in their right mind would make a loan, but instead of collecting interest for taking on the risk of default, instead promises to pay the borrower interest? Wouldn't any self-respecting, risk-averse banker prefer to simply keep his money safely tucked away in the vault? And yet, we've all seen the headlines about the spread of negative interest rates across Europe and Japan. Currently, approximately \$13 trillion in bonds (down from more than \$17 trillion this past summer) around the globe trade at yields below zero. To put that into perspective, excluding the US, 38% of the Bloomberg Barclays Global Aggregate Index (the broadest basket of investment grade bonds from around the world) trades at negative rates.

If that seems crazy to you, join the club. We were almost ready to write the whole thing off as a post-financial crisis government bond oddity that would soon pass, until we read that potential home buyers in Denmark can now get a mortgage that pays the home buyer interest. To quote cowboy actor Slim Pickens, "What in the wild world of sports is a-goin' on here?"

Like many policies that eventually take on a life of their own, negative interest rates started off quietly enough. In 2009, the Riksbank, Sweden's central bank, lowered the rate it paid on commercial bank deposits to -0.25%. With bank lending having ground to a halt in the wake of the financial crisis, the Riksbank was trying to encourage Swedish banks to make loans rather than park money with the central bank; making banks pay 25 basis points for "sitting on cash" was seen by some as a clever policy move. In any case, this was the first appearance of negative interest rates in modern history.

As the chart above shows, the policy was short-lived as the Riksbank soon boosted the deposit rate to more than 1% over the next couple of years. But by 2014, with economic growth once again failing to respond to increasingly lower rates, the Riksbank, along with the European Central Bank (ECB), dropped their overnight borrowing rates to below zero. The Bank of Japan

(BOJ) followed suit in 2016. While the Riksbank's move was relatively small potatoes within the scope of the global banking system, the ECB and BOJ are the central banks for two of the world's largest economic powers; negative rates, like quantitative easing and central bank asset purchases before them, had entered the mainstream of monetary policy tools.

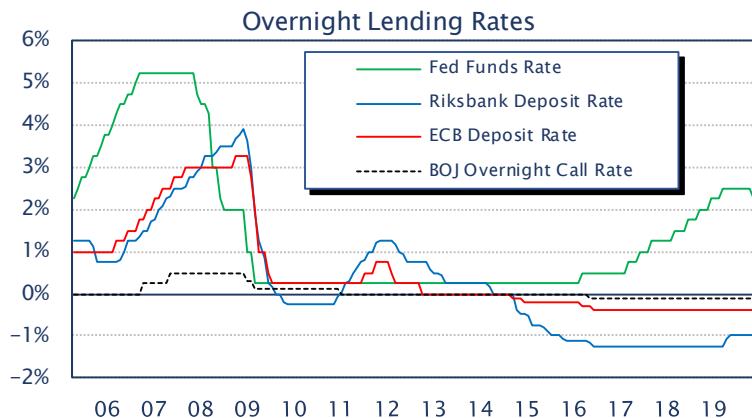
As we now know, the last five years have seen the expansion of negative rates across the globe, especially in Western Europe and Japan. And unlike the early forays, where negative rates were short-term policy tools used only by central banks, negative rates are now ubiquitous in places like Germany, where yields are below zero for every point along the government bond yield curve.

In July, yields on Swiss government bonds with 50-year maturities fell below zero.

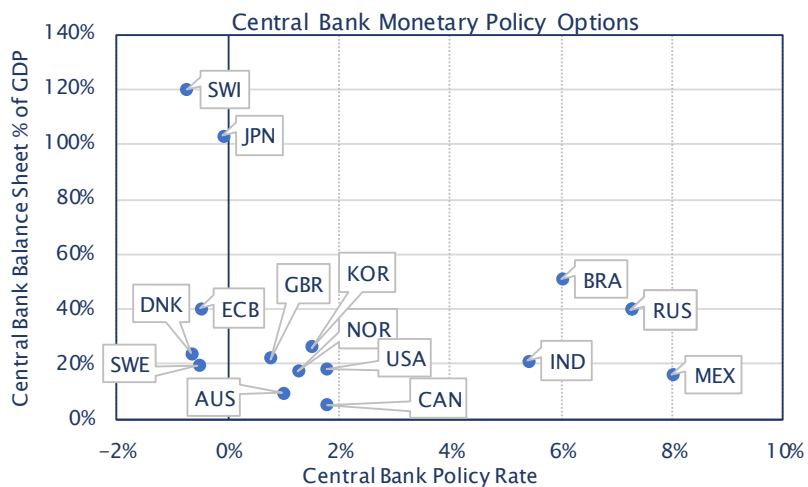
To some extent, bond yields trading below zero is due to conventional bond math. If the central bank has moved its policy rate for overnight money to below zero, and investors believe that rates

will stay below zero for an extended period of time, it's only natural that rates further out the maturity range—say, six months to two years—would reflect a "lower for longer" policy stance. But it would take an extreme case of economic pessimism for most investors to purchase bonds with ten- or thirty-year maturities yielding less than zero, so there must be something else going on.

We cannot overlook the fact that rate-setting policies have no teeth if they aren't backed by the ability to enforce those policies. In the case of the world's central banks, those policies have been backed up by large-scale asset purchase (LSAP) programs. By buying up sizable chunks of bonds from the open market, the Federal Reserve and its foreign counterparts can inflate the prices of those bonds, while reducing their yields. If economic growth has flat-lined, large (multi-trillion dollar) asset purchases, in combination with already-aggressive negative rate lending policies, can produce negative yields far out the maturity spectrum.



It's appropriate to ask whether the US could see this type of scenario play out. The chart on this page (data courtesy of IMF) shows that, when compared to other developed economies, the US still has some leeway in its policy options. The left-hand axis shows the size of each central bank's balance sheet relative to that country's/economic entity's GDP. The horizontal axis plots the corresponding overnight borrowing rate. If we think about a central bank's two biggest monetary stimulus tools—low overnight borrowing rates and LSAPs—we see two countries, Japan and Switzerland, that are running out of options. Huge asset purchase programs have bloated their central banks' balance sheets to the point where they now exceed their entire annual economic output; meanwhile, these countries have already lowered their overnight borrowing rates to below zero. By comparison, countries like the US and Canada have room to lower rates further and expand asset purchases. We should mention that developing and commodity-dependent economies like Mexico, Russia, and Brazil look very different in these analyses, due to unstable currencies and persistently high inflation; they face an entirely different set of challenges.



So it appears that, if need be, the Federal Reserve could significantly increase its asset purchase program (which is currently on hold, with maturities and redemptions of bonds being reinvested with replacement purchases), as well as drop the overnight Fed funds rate another 175 basis points before it hits the "zero lower bound," as economists refer to it. The other main lever that has historically been pulled to boost the economy is fiscal policy; unfortunately, this lever has practically had its handle torn off, as the US is running trillion dollar budget deficits due to insufficient tax revenue relative to our ever-growing federal spending. Given the current fractious political climate, we shouldn't expect much help on this front.

It's also fair to ask if the move to negative rates and LSAPs are worth the disruptions they cause. Negative rates have a real world adverse impact on that country's/economic entity's banking system. After all, banks are in the business of earning a spread between the income they collect from making loans (or from investments), and their cost of capital (which comes mostly in the form of deposits). But in a negative rate environment, banks have an effective cost of capital of zero—unlike a central bank, a commercial bank can't get away with charging depositors interest. So as rates come down, they earn less and less on

loans and investments, but there is no corresponding drop in their cost of funds once the zero lower bound is hit. The result is a profit squeeze on the banking system.

In Europe, the negative rate environment is crushing the profits of its commercial banks, where more than 60% of bank earnings come from net interest income. Investors have, understandably, shunned European bank stocks; since negative rates were implemented in 2014, the EuroStoxx bank index is down 50%. A typical European bank stock today trades at only 30% to 40% of its book value. While the ECB has downplayed the impact of its policies on the banking system, keep in mind that the ECB has also implemented new, more onerous capital requirements on these profit-starved banks. If the ECB's policies were intended (at least at the beginning) to encourage banks to take risks and lend, it's not working. Since the financial crisis, European banks haven't been able to recapitalize to the same extent as US, British, and Canadian banks, and the ECB's negative rate policy has significantly hampered its ability to do so.

Where does that leave us? At this point, it appears that the arguments in favor of negative rates are pretty weak, particularly when compared to the damage they can cause to the financial system. Like other non-traditional monetary policy tools (we're looking at you, quantitative easing), negative rates suffer from fatigue, as their effectiveness appears to wane over time. The Federal Reserve Bank of San Francisco published an *Economic Letter* in August that showed that when the BOJ announced its intent to follow a negative interest rate strategy in 2016, inflation expectations fell almost immediately. That's the opposite of what policymakers were intending, and demonstrates that the signaling effects of negative policy rates may do more to depress economic expectations than bolster them.

Here's hoping the Fed's policy-making committee, the FOMC, reads its own research. Now is a good time, while we still have some monetary wiggle room, for the US central bank to look seriously at alternative policies (e.g., price level targeting) rather than wandering down the negative rate path. Below-zero rates are bad for savers, destructive to the financial system, and don't work very well to encourage economic growth or to raise inflation expectations. We can learn from the mistakes others are making. We can do better.