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# The Implications of Negative Interest Rates

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## Summary

- In order to stimulate their economies, several major central banks around the world have introduced unprecedented negative policy interest rates.
- We are skeptical that they will be as effective as policymakers intend; in addition, we've identified a number of potential risks and unintended consequences.
- Negative interest rates have driven significant bond price returns year-to-date, but we currently think an investment in many international sovereign bonds carries an inordinate amount of risk.

Earlier this year, Japan's central bank surprised global financial markets by introducing negative interest rates in an aggressive attempt to stimulate its stagnant economy. Central banks of the European Union, Denmark, Sweden and Switzerland also have negative policy rates. In this white paper, we explain the mechanics of negative interest-rate policy (NIRP), its intended outcomes, potential unintended consequences and other risks, and, finally, implications for our clients' investments.

## A Brief Overview of Central Banks

In the context of monetary policy, interest rates are determined by a country's (or region's) central bank. Generally, a central bank is the bank for commercial banks. A commercial bank has an account at its central bank, from which the commercial bank can borrow money and where the commercial bank can deposit excess funds that it hasn't lent out to its own customers. The commercial bank will pay interest on loans it receives from the central bank and will typically earn interest on funds deposited at the central bank.

Policymakers will adjust the central banks' applicable interest rates depending on their monetary objectives for the economy. If the economy is growing too slowly (or in a recession), the central bank will lower interest rates in order to stimulate the economy. Lower interest rates set by the central bank eventually make their way through the banking system, increasing the amount of low-cost money available for consumers and businesses to borrow for consumption or investment, which in turn increase economic activity. Conversely, if an economy is growing too quickly to the point of potentially harmful inflation, central banks will raise their interest rates to depress the amount of money entering the economy via borrowing. Because of central banks' ability to increase or decrease the amount of amount of money being put to work in an economy, they are typically one of the biggest drivers of the ebb and flow of the business cycle.

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## Negative Interest Rates in Current Context

In their continuing efforts to fight off economic stagnation, several global central banks have ventured further into unknown policy territory by introducing NIRP. Here, central banks have set their deposit rates (the rates at which commercial banks earn interest on their deposits at the central banks) to negative levels.<sup>1</sup> *Instead of receiving interest for deposits at these central banks, commercial banks now must pay interest for excess deposits held at participating central banks.*

## Intentions of NIRP

Proponents of NIRP view it as a logical extension of zero interest-rate policy (ZIRP), albeit more aggressive by making it punitive for commercial banks to hold excess reserves. The desired results of NIRP include:

- The creation of additional inexpensive credit for increased consumption and investment
- An increase in inflation to targeted levels<sup>2</sup>
- A devaluation of the local currency to make exports more attractive to foreign buyers

## Will NIRP work?

We do not know if NIRP will work. It is still in its early stages. Further, it has no historical precedent. But we are skeptical.

- ***Negative interest rates are unlikely to be fully realized, limiting their effectiveness.***  
For any decrease in policy rates to be effective, it must get passed along through the entire banking system. In theory, there should be no limit to how low (or how negative) market interest rates can go. However, we believe there is a practical limit involving commercial and retail banks.

An important consideration is the understanding of banks' business model. At its most basic, banks generate revenue by charging interest on loans they make. The largest source of funds for loans is deposits, and to attract deposits, banks pay customers interest on savings deposits held. Banks profit on the difference between the higher interest earned on loans made and the lower interest paid on customer deposits.<sup>3</sup>

To maintain profitability, all else equal, a bank will adjust the rate it offers for deposits by the same amount it adjusts rates for loans and by the same amount the central bank adjusts its rate paid to banks for their excess reserves. Were NIRP to be fully transmitted, banks would offer negative rates for customer deposits—in other words, customers would pay the bank interest to deposit their savings. This seems highly unlikely, as customers would simply withdrawal their deposits and hold cash.<sup>4</sup>

- ***Global policy responses have blunted the impact of targeted currency devaluation.***  
All else equal, lower interest rates should decrease the value of a country's currency relative to the currency of nations with higher rates. In turn, a weaker currency has the benefit of making a country's goods and services more competitive (i.e., cheaper) to foreign buyers, which should increase demand and stimulate the local economy.  
However, foreign-currency exchange is a zero-sum game. When Country A devalues its currency relative to Country B, Country B's currency becomes relatively

stronger than Country A's. Country B's goods and services are then more expensive to foreign buyers, which decreases global demand for them. A subsequent rate cut by Country B could negate much of any benefit to Country A of its devaluation and could cause a cycle of competitive devaluation. For instance, in an effort to help their economies, Denmark and Sweden introduced negative interest rates, only to see the European Union, their largest trading partner, initiate its own NIRP later.

- **Consumers and businesses have been able to borrow at extremely and/or historically low market rates for years under ZIRP.** From a behavioral perspective, we question how much a potential borrower's appetite for debt will increase as rates are sliced further, given how long they've already been at such levels.

Beyond these direct negative implications, we've identified a number of potential risks and unintended consequences from NIRP.

- NIRP remains a tremendous unknown, and financial markets abhor uncertainty. We expect NIRP to be a catalyst for further volatility.
- Faced with pressure on profitability, banks may reduce their willingness to lend, especially for marginal borrowers.
- To the extent that NIRP spreads to the capital markets (see below), it punishes savers. By purchasing a bond with a negative yield and holding it to maturity, the bondholder is uniquely guaranteed a loss of capital.
- To compensate for potentially lower investment returns under ZIRP than enjoyed historically, individuals may actually increase their savings and decrease their spending.
- For those that rely on a fixed income, purchasing a negative- or low-yielding bond would result in a loss of purchasing power if inflation increases over the bond's holding period.
- Ironically, the yen has *appreciated* against the dollar since the Bank of Japan (BoJ) introduced its NIRP at the end of January 2016, as depicted in Exhibit 1.<sup>5</sup> (The chart indicates how many yen that one U.S. dollar will buy; a downward slope indicates the yen appreciating.)

#### EXHIBIT 1: YEN VERSUS THE DOLLAR

Sources: StockCharts, CFSI

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## Impact on Financial Markets

So far, NIRP's greatest impact has been observed in fixed-income markets. During the first quarter of 2016, global rates plunged, driven largely by the BoJ surprising markets with negative deposit rates and the European Central Bank (ECB) pushing further into negative territory.<sup>6</sup> Exhibit 2 illustrates the decline in yields of 10-year government bonds for relevant countries. The BoJ's NIRP pushed yields for 10-year Japanese Government Bonds into negative territory, also.<sup>7</sup> Because of the ever-increasing connectedness of global financial markets, actions by the ECB and BoJ influenced rates for U.S. bonds.

Given the inverse relationship between interest rates and bond prices, bond indices rose during the period and outpaced equities, as depicted in Exhibit 3.

EXHIBIT 2: YIELDS ON 10-YEAR GOVERNMENT BONDS  
Sources: Bloomberg, CFSI

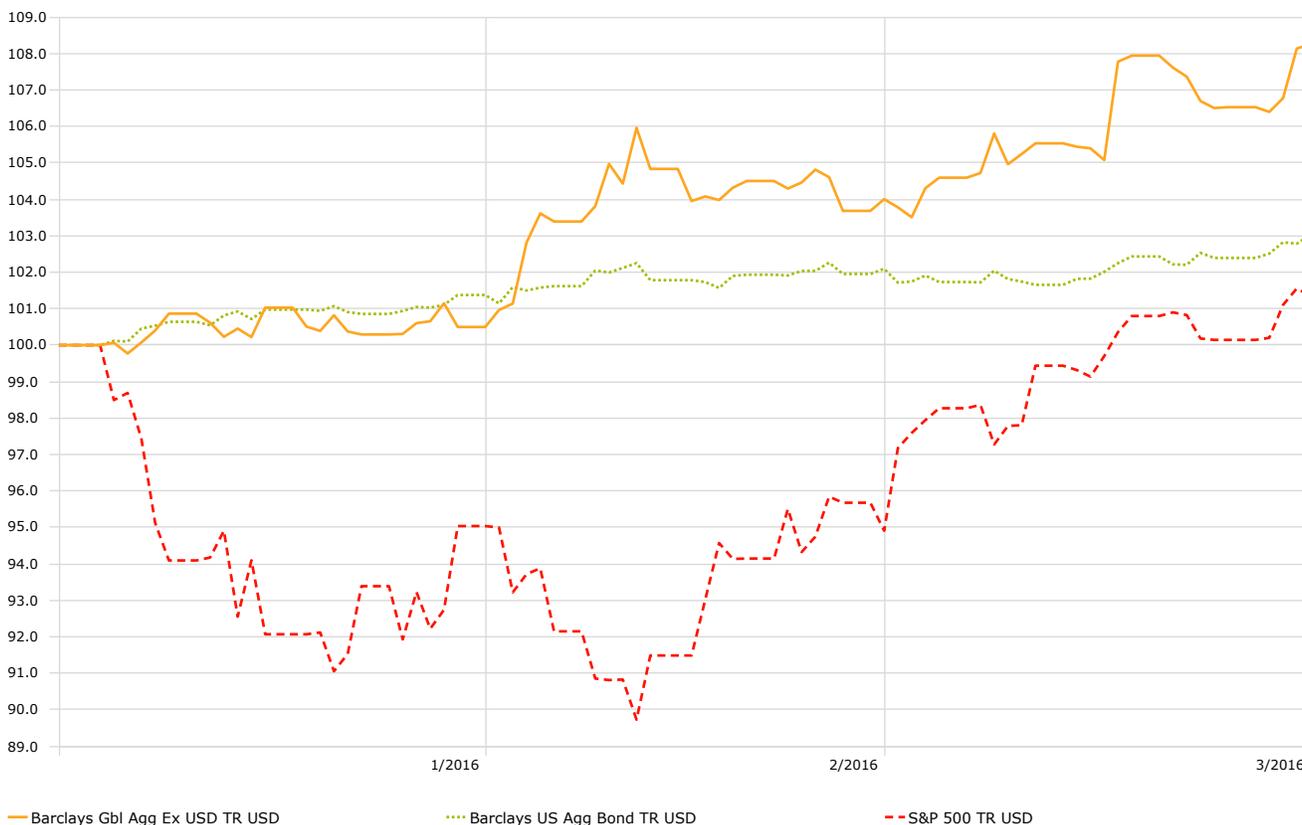
Country	Rates on 10-Year 12/31/2015	Rates on 10-Year 3/31/2016
Germany	0.63%	0.15%
Japan	0.27%	-0.03%
U.S.	2.27%	1.77%

EXHIBIT 3: TOTAL RETURNS FOR INTERNATIONAL BONDS, U.S. BONDS AND U.S. EQUITIES

Sources: Morningstar Direct, CFSI

### Investment Growth

Time Period: 1/1/2016 to 3/31/2016



## Current Investing Implications

When analyzing any asset for potential investment, we perform a thorough risk/reward analysis. We've identified a few reasons why an investor would want to own European or Japanese government bonds today:

- If the investor expects European and Japanese interest rates to fall further, resulting in additional bond price appreciation
- If the investor is unhedged and expects the dollar to weaken relative to the euro and/or yen
- Further diversification

However, in our opinion, the reasons to own European or Japanese governments today are overwhelmed by the reasons not to own them:

- Bonds are fixed-income investments, yet they generate no (or negative) income for investors at today's prices.
- Since they provide no income, they are essentially equivalent to cash, but with a volatile price.
- Any rise in their domestic interest rates and/or inflation could lead to significant capital losses.

We think the risk/reward seems very skewed to the downside. Any investment CFSI would make in a vehicle that held meaningful positions in European and/or Japanese sovereign bonds would likely also include significant holdings with spreads to offer a more a more attractive yield and better diversification. But until we see a better margin of safety, we'll patiently wait.

### NOTES

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- 1 As of this writing, the deposit rates are -0.40% and -0.10% at the European Central Bank and Bank of Japan, respectively.
- 2 Beyond increasing inflation, certain global economies are consistently working to avoid deflation (a general decline in prices). Persistent deflation is particularly harmful because it can lead to reduced demand, resulting in higher unemployment that begets further reduced demand that creates a vicious circle.
- 3 The difference in rates is known as "net interest spread" and is one measure of bank profitability.
- 4 In a December 2015 poll by ING of 13,000 people in Australia, Europe and the United States, 77% of consumers indicated they would withdraw money from bank accounts if interest rates turn negative.
- 5 The yen's appreciation can be attributed to its role as a "safe-haven" currency during global uncertainty, weakness in the dollar as expectations of near-term rate increases by the Fed have declined, and traders doubting the effectiveness of BoJ policy, among other reasons.
- 6 According to Fitch Ratings, \$10.4 trillion of global sovereign debt spread over 14 countries and several maturities offered negative yields as of May 31, 2016. This figure was about \$6 trillion at the beginning of the year.
- 7 As of this writing, yields on Japanese and German sovereign bonds had fallen more. Yields on 10-year Japanese government bonds were more negative, and yields on 10-year German government bonds entered negative territory for the first time ever.

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