



NEGATIVE INTEREST RATES



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NEGATIVE INTEREST RATES

The concept of negative interest rates is not an intuitive one. Prior to the 2008 financial crisis, the vast majority of people including many investment professionals did not believe interest rates could actually fall below zero. In the years following the recession, negative yielding debt peaked at \$17 trillion in global bonds. Now that we live in a world with negative interest rates, it's important to have a better understanding of this phenomena in practice, how we got here, where does it end, and what might be the long-term market consequences of negative interest rates.

THE BASICS

A bond is a contract between two parties. On one side of the transaction is a borrower, usually a corporation or a government entity that issues a bond in exchange for funding. On the other side of the transaction is a lender who gives money to the borrower in exchange for a note or bond. The note is basically an I.O.U whereby the borrower agrees to pay back the lender their principal at a specific future date. Typically the borrower is charged interest at regular intervals to compensate the lender for the use of their funds over time.

Homeowners are familiar with borrowing for the purchase of a home. A house is purchased for \$300,000 with the buyer putting \$50,000 down in equity and going to the bank to obtain a first mortgage loan for \$250,000. The mortgage loan comes with a specified term (15 or 30 years), a monthly repayment schedule and a stated interest rate. Homeowners realize they are not going to get the money for free (no interest charged), so they will expect to pay an interest rate on the outstanding principal of the loan to fairly compensate the bank over time. This transaction is logical based on our collective understanding of how the world works.

What if we turned this transaction upside down and gave the mortgage loan a negative interest rate? In the example above, this means the homeowner's monthly payment would have a credit each month for the interest they "earned" by borrowing money. The bank would essentially be paying interest on the money they lent to the homeowner. Conceptually, this is very difficult to comprehend. Borrowers should be charged interest and lenders should receive interest, not the other way around.

There is one point of clarification that is important to comprehend. This is the understanding of both negative interest rates and negative yields. There is a difference. When a fixed rate bond is issued for the first time, its stated coupon is often reflective of current market interest rates. For example, if the U.S. Treasury issues new 10-year maturity notes at a time when existing 10-year notes are yielding 1.05%, the new 10-year notes will likely have a 1.00% coupon and trade at a slight discount to par. As this bond travels through time toward its final maturity the 1.00% coupon remains fixed, but the price of the bond will fluctuate so its yield will reflect current market interest rates. If market interest rates fall from 1.05% to -0.25% this note will still pay its 1.00% fixed coupon, but the price of this note will rise to a level to produce a yield to maturity of -0.25% to the new buyer. When the U.S Treasury issues a new 10-year note when market rates are at -0.25% it will price the bonds to arrive at the -0.25% yield. This can be accomplished by giving the note a zero percentage stated coupon and pricing the bond higher than its value at maturity (a premium). The other option is to give the bond a negative stated coupon rate of -0.25% and price the bond at par. This can be

logistically challenging and create significant accounting challenges as the issuer would need to collect the -0.25% coupon from the bond owner.

In this upside down world of negative interest rates, one relationship stays constant. The directional relationship between bond prices and interest rates hold true regardless if yields are positive or negative. As interest rates rise, bond prices will move lower. As interest rates fall, bond prices will move higher. If an investor buys a bond with a negative yield, they can still profit if interest rates fall further into negative territory.

NEGATIVE INTEREST IN PRACTICE

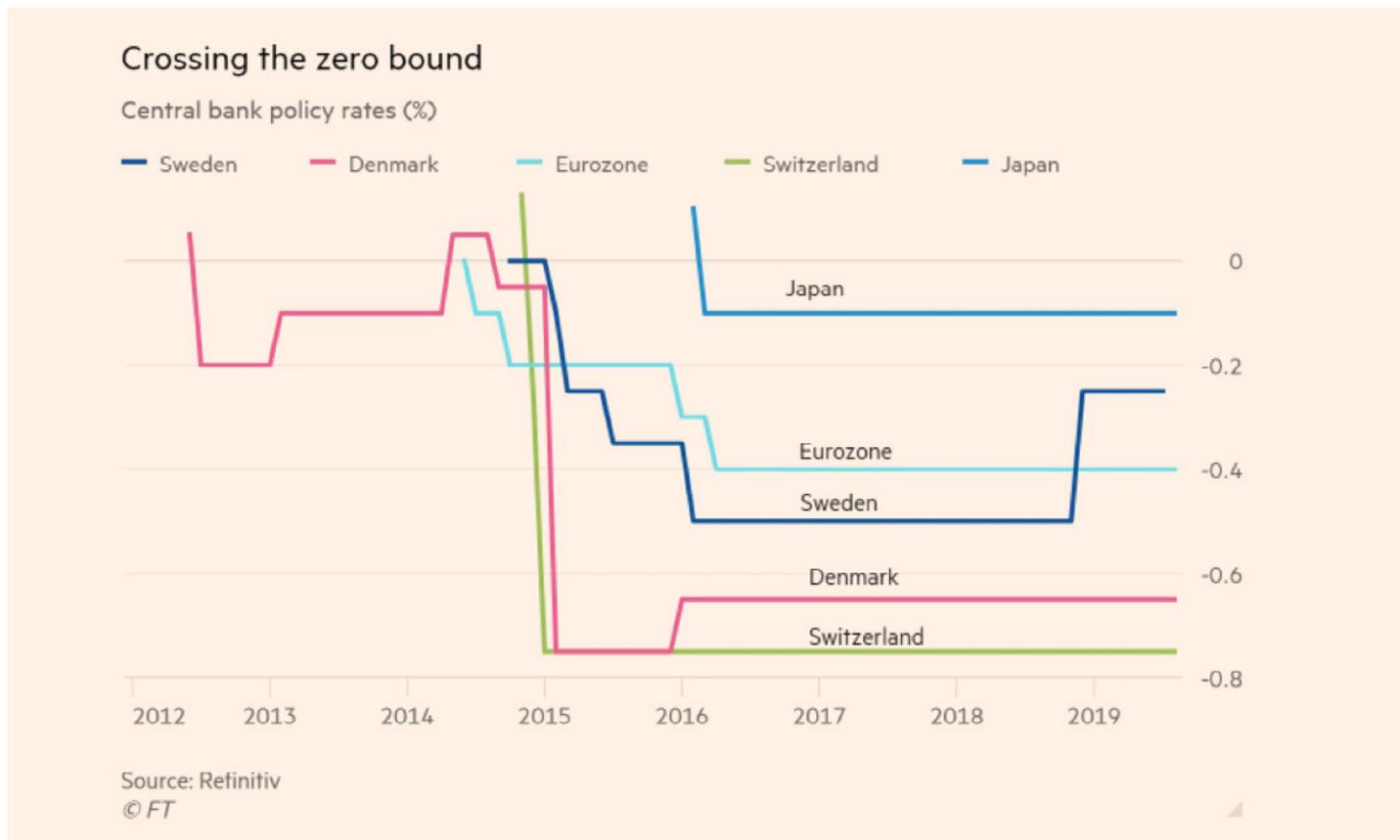
While the thought of being paid interest on your mortgage loan is intriguing, negative interest rates generally reside in the world of central banks and their member banks. Central banks are charged with promoting economic prosperity and financial stability. One of their key tools is the development and implementation of cohesive monetary policy. Monetary policy is a key macroeconomic policy set forth by a country's central bank to achieve its objectives related to inflation, consumption, lending, growth and liquidity.

Following the great recession of 2007-09, central banks around the world rushed to employ expansionary monetary policies that included bringing short-term interest rates to zero. Central banks kept rates at zero in the hopes that individuals and businesses would borrow more and increase spending to ignite their respective economies. Meaningful growth never transpired so central banks began to contemplate a radical monetary policy initiative. The grand experiment was to implement negative short-term interest rates on bank funds held on deposit at the central bank.

The U.S. Federal Reserve Bank stopped cutting rates when they hit zero and aggressively implemented a program called "Quantitative Easing" which became known as "QE". Their four stage QE program pumped almost \$4 trillion of liquidity into the U.S. banking system. While the U.S. Federal Reserve Bank opted to hold the line at zero interest rates, other central banks around the globe resorted to an unconventional monetary policy measure of allowing short-term interest rates to go negative.

Sweden was the first central bank to break the zero percent floor in July 2009 as they lowered the rate on some overnight commercial bank deposits to -0.25%. This turned out to be a brief experiment and ultimately set the stage for other central banks to take this bold step. Denmark initiated negative interest rates in 2012. The European Central Bank made their move to negative rates in 2014 followed by Switzerland in early 2015 and Japan in 2016.

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Negative interest rates introduced by these countries were all done to stimulate economic growth and prevent deflation. In theory, each central bank with negative interest rates is providing a strong incentive for member banks to loan or invest their excess reserves versus keeping those funds deposited at the central bank. As more money flows back

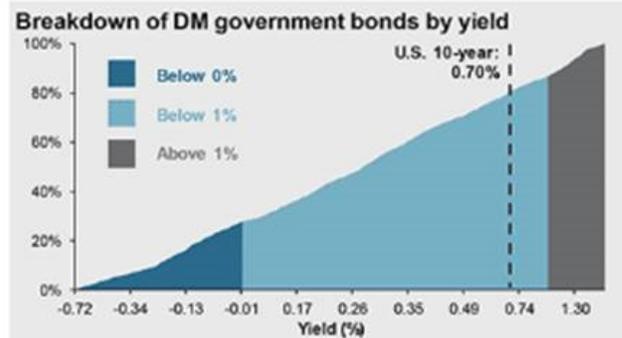
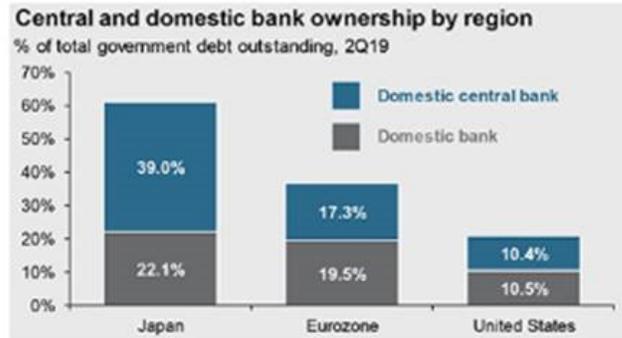
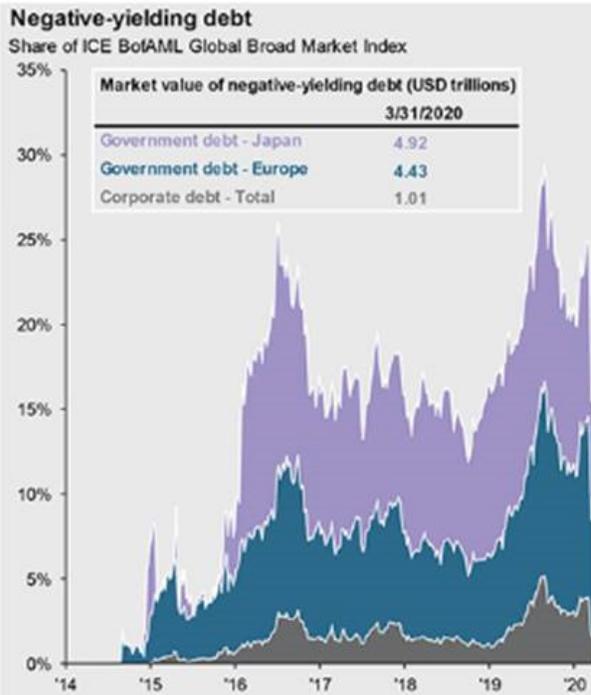
into the economy through investment and loans, it should spur economic growth and cause inflation to rise. Despite these efforts, minimal growth began to emerge while inflation remained at very low levels. The fear of deflation gave central banks the incentive to continue the push rates further into negative territory.

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Negative-yielding debt

GTM - U.S. | 38

Fixed income



Source: J.P. Morgan Asset Management; (Left) Bloomberg, BofA/Merrill Lynch; (Top right) Bank for International Settlements International Banking Statistics, ECB, Eurostat, IMF Coordinated Portfolio Investment Survey (CPIS), IMF Currency Composition of Official Foreign Exchange Reserves (COFER), IMF International Financial Statistics (IFS), IMF-World Bank Quarterly External Debt Statistics; (Bottom right) Bloomberg, BofA/Merrill Lynch. Countries included in Europe are: Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal, Slovenia, Spain, Sweden, and Switzerland. Guide to the Markets – U.S. Data are as of March 31, 2020.

J.P.Morgan
Asset Management

On the left hand side of the exhibit above, you can track the explosion of negative yielding debt. The first wave of growth came from Europe, Switzerland and Sweden. The second wave, which peaked at \$17 trillion in negative yielding debt, was systematic of growing concerns regarding a global economic slowdown and heightened tensions surrounding trade wars. A close look at the lower right corner of this exhibit, depicts how difficult it has become to find meaningful yield from government bonds in developed markets.

Central banks set short-term interest rates through their respective monetary policy initiatives. As you move out the yield curve from overnight rates to 30-year bonds, the central bank has much less influence on longer maturity rates. Longer-term interest rates begin to reflect many factors over which central banks have less direct control:

- Economic growth
- Demand for money
- Supply of money
- Fiscal deficit and government borrowing
- Inflation or deflation
- Global interest rates
- Foreign exchange rates

In August of 2019, and again in April 2020, the entire yield curve in Germany from overnight loans out to 30-years bonds carried negative yields. This once unthinkable phenomenon is a reflection of extraordinary circumstances where there is extreme demand for safe assets in a flat growth and ultra-low inflationary environment.

NEGATIVE INTEREST RATES

WHAT IS THE DOWNSIDE OF PROLONGED NEGATIVE INTEREST RATES?

Low interest rates or even negative interest rates are good for borrowers, but not so attractive for lenders or investors. Retirees, pension funds, insurance companies or other individuals who depend heavily on income from bank savings or bond investments are unable to achieve their income objectives from traditional investments like certificates of deposits, treasury securities or corporate/municipal bonds.

Investors are faced with a difficult decision. Stay invested in lower risk investments that do not meet their income needs or move out on the risk spectrum to find riskier assets with higher yields. These transactions can take many forms like:

- Selling short-term U.S. Treasury notes and buying high yield bonds
- Selling corporate bonds and buying preferred stock
- Moving from cash into high dividend paying stocks

As more money pours into riskier investments, prices for these assets are driven higher and there is a higher potential for “asset bubbles” to form. Trades that increase investor risk can be very beneficial in times of rising markets and prosperity, but can also create greater loss and less protection in times of decline.

Bank profitability and solvency may also be at risk. The negative interest rate phenomenon may ultimately put the squeeze on bank profitability and inadvertently disrupt the banking system. Ironically, during the financial crisis of 2007-09 central banks were very concerned about bank solvency and the quality of their respective loan portfolios. With so many central banks now using negative interest rates to spur economic growth they are pressuring bank profitability by narrowing their interest rate margins. Banks generate revenue and profit on the spread between rates they pay for funds held on deposit versus the interest they collect on making loans to borrowers. In practice, a central bank can charge negative interest to a member bank for funds they deposit, but a bank has difficulty collecting interest from a retail client on their savings account. Instead, banks have opted to charge a quarterly fee to clients for maintaining a savings account. With flat yield curves or negative interest rates across the yield curve like the German example, profit margins for German banks are being squeezed by the negative rate experiment. Another concern for banks are all the floating rate mortgage loans on their books that are being systematically reset at lower interest rates. These lower resets will also reduce margins over time.

Currency valuations are also impacted by negative interest rates. A country's currency is affected by many factors:

- Differentials in interest rates
- Differentials in inflation
- Current account deficits
- Public debt
- Terms of trade
- Relative economic performance

Central banks employing negative interest rates are effectively weakening their local currency. This makes that country's exports more attractive to foreign buyers because those goods and services are cheaper on a relative basis. Tourism is helped as visitors from other countries find their money goes a long way in a country with a weak currency. An extended period of weak currency, however, can be harmful to that economy as it becomes difficult to attract foreign capital for investment and business development. Also, inflation has the potential to rise rapidly in this environment.

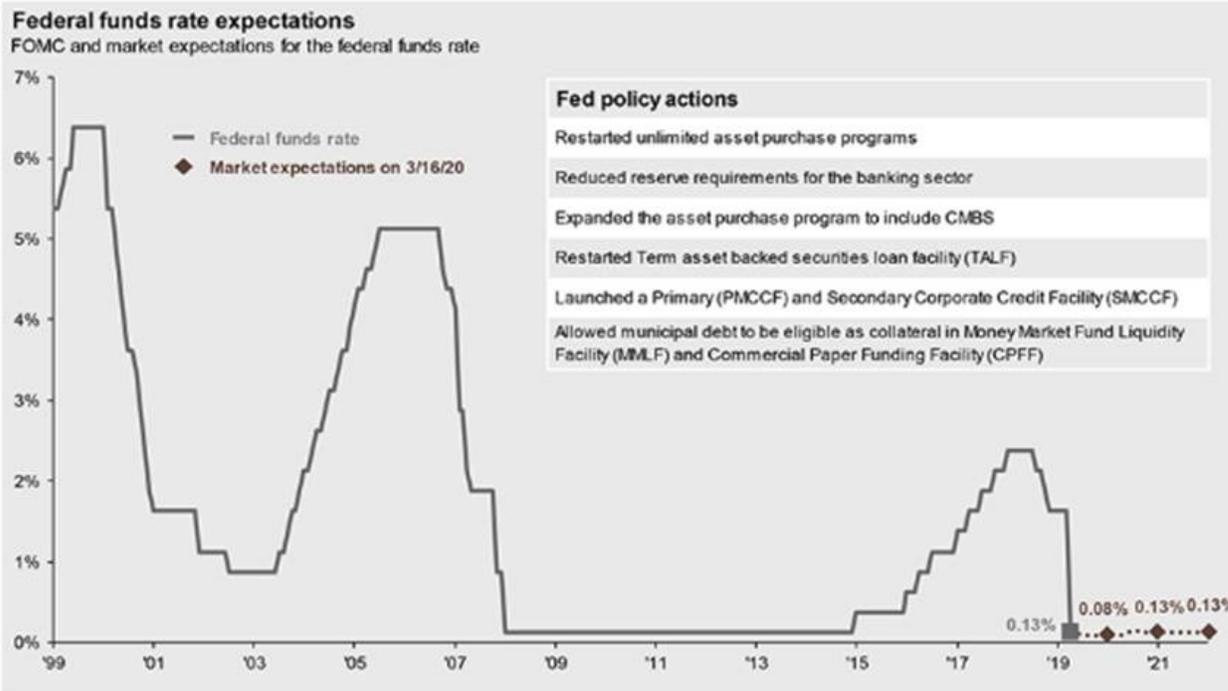
Currently, the extraordinary measures of pursuing a negative interest rate monetary policy has not produced extraordinary economic results. All of the countries who adopted negative interest rate programs have stopped their respective economic downturns, but have not generated the growth desired. The worrisome question is, what can be done if an economic recession occurs before a real recovery happens? Central banks in these negative interest rate economies have exhausted many of the historical tools used to support economies during times of recession. What could be the next move to stimulate these economies if these tools have already been deployed? If existing negative rates and aggressive quantitative easing cannot revive an economy, will larger negative rates and more quantitative easing be the answer? Will fiscal deficits spiral out of control as governments inject fiscal stimulus to stimulate their respective economies?

The United States finds itself in an enviable position compared to most of the developed markets around the globe. Fortunately, the U.S. economy responded favorably to the U.S. Federal Reserve's seven-year zero interest rate policy and its aggressive QE program. The Fed used a window of opportunity to dial back its expansive monetary policies. It decided to raise short-term interest rates in 2015 and later began to unwind some of its QE which gave it some breathing room for future monetary policy decisions. The event-driven coronavirus recession has caused the Federal Reserve to quickly return to a zero interest rate policy.

Europe, Japan, Denmark, Switzerland and Sweden do not have the same luxury. These economies need to experience some form of recovery before they return to a normal monetary policy. A future recession with constrained central bank support may prove to be a painful economic experience.

NEGATIVE INTEREST RATES

Fixed income



Source: Bloomberg, FactSet, Federal Reserve, J.P. Morgan Asset Management. Market expectations are the federal funds rates priced into the fed futures market as of the following date of the March 15, 2020 emergency cut and are through December 2022. Guide to the Markets - U.S. Data are as of March 31, 2020.



WHERE DOES THIS END?

The final chapter of this grand monetary policy experiment of negative interest rates has yet to be written. Based on where we are in the process, it appears the traditional monetary policy tools of central banks may not be enough to counterbalance the next economic downturn. Monetary policy that has created negative interest rates were meant to stimulate the economy into growth but has not had the intended benefit. It remains to be seen what policies can be enacted if these economies, which have not had the benefit of true economic recovery, begin to decline again. Stimulative fiscal policies may be enacted which may lead to ballooning deficits and a new set of economic concerns.

If a recession precedes a strong recovery, deflation may become the next big problem. Central banks will need to implement steps to drive inflation higher. If current low and negative interest rates are not stimulating demand for goods and services, the next aggressive action may be to devalue currencies. With the gold standard scrapped decades ago, the central bank now has the ability to print money. If money supply grows at a faster pace than the growth of goods and services, inflation will eventually result.

In a future world of currency wars and a fight to avoid deflation, real rates of returns may turn negative. In that type of environment, investors will be wise to hold assets that maintain their real value based on limited supply. Assets like real estate, fine art, gold and dividend paying stocks may outperform those paper assets that are primarily controlled by central banks. Things like government bonds with low or negative yields and hard currencies being devalued may provide the feeling of “safety” but at a high relative opportunity cost.

Sometimes unintended consequences can ruin the best laid plans. Global central banks sprang into action after the great recession of 2007-09 to engineer a soft economic landing and avoid a repeat of the Great Depression of the late 1920's. The expansive monetary policies to date successfully avoided a depression and certainly minimized the pain caused by the 2007-09 recession. The longer-term implications of negative interest rates are not yet known, but certainly worthy of our attention. Time will teach us more.

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