December 2016

TIAA GLOBAL ASSET MANAGEMENT

Impact of rising interest rates on equity markets

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Executive summary

- Interest rates are rising from all-time low levels across the world, worrying some equity investors who view higher rates as a threat to equity markets.
- Changes in interest rates affect corporate earnings growth, equity valuations, investor risk appetite, and the level of the U.S. dollar, all of which have consequences for stocks.
- The degree to which stock prices rise or fall during periods of rising interest rates depends greatly on why rates are rising in the first place.
- Gradual increases in rates driven by optimism about economic growth tend to occur in environments in which earnings are strengthening and stocks are well-supported.
- Across countries and sectors, different segments of global markets respond differently to changes in interest rates, arguing strongly for diversification within equity portfolios.

It's finally safe to say it: Interest rates are rising

Over the past decade, investors have probably seen a number of pieces like this one, providing analysis and guidance on how to prepare their portfolios for the coming rise in interest rates. Much of that guidance was likely sound, still more of it well-intentioned. But there's been one major problem: interest rates never rose, at least not for long. Of course, interest rates can increase over the course of a week, a month or even a year, as they did in the U.S. in 2013. But by our count there were at least five consensus "bottom" calls for interest rates between early 2009 and early 2015. Each of them was followed by a short period of rising rates, which inevitably gave way to a renewed fall in rates and, in most cases, a new all-time low.

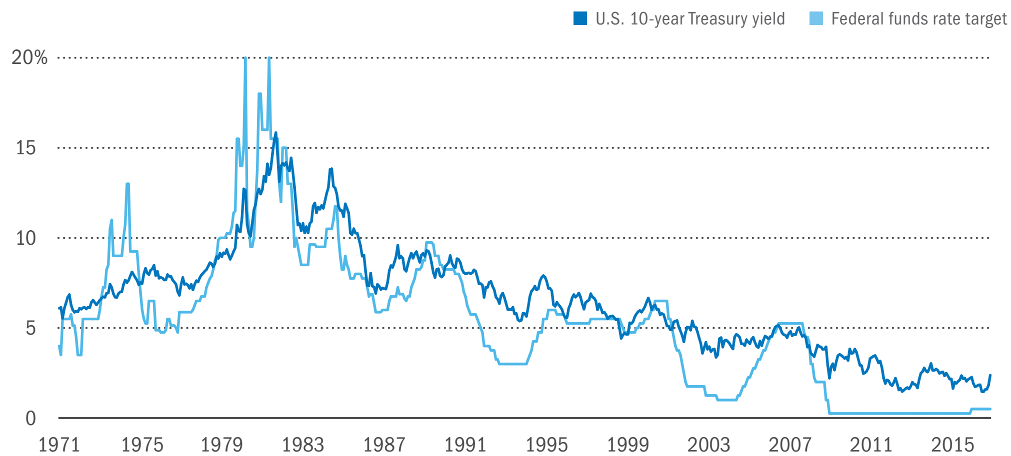
The most recent bottoming in rates happened just recently, in July 2016, following the U.K.'s vote to leave the European Union, more commonly referred to as Brexit. As of early December, the 10-year U.S. Treasury yield, which we will use to represent "interest rates" more broadly throughout this piece, was up by about 100 basis points (+1%) from its all-time low of 1.37%. About half of that increase came between Brexit and the U.S. election. The other half occurred in the first few weeks after the election.

Interest rates are the bond market's way of telling the world how it feels about the future.

It's not hard to think of events that could stop this trend in its tracks and cause it to reverse. Another Greece-like crisis in the Eurozone, a U.S. recession, or a panic emanating from China would probably do the trick (they have before). But absent one of these shocks, interest rates in the U.S. and much of the rest of the world are already poised to rise over both short- and long-term horizons.

Short-term rates are widely expected to move higher as central banks step back from their historically accommodative monetary policies, and rates on longer-term securities such as mortgages and Treasury bonds should follow suit. This marks a radical departure from the last 36 years, which, as Figure 1 shows, has been a largely uninterrupted bull market for bonds as interest rates have fallen from nearly 16% to as low as under 1.5%. (Bond prices and yields move in opposite directions.)

Figure 1. The end of a long bull market in bonds?



Data as of 11/30/2016. Source: Bloomberg.

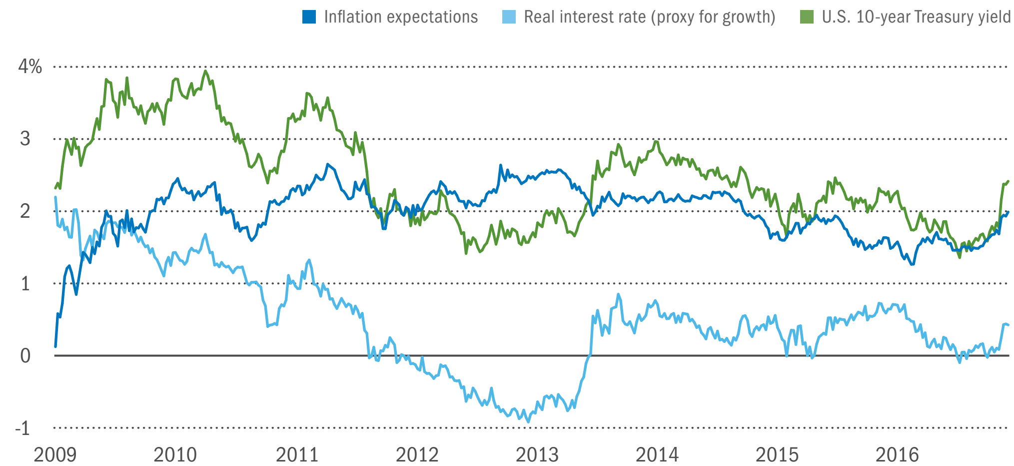
Why do interest rates rise?

When evaluating the likely impact of rising rates on any asset—a stock, bond, or commodity—it is important to understand the context. Why are interest rates rising? Figure 2 shows that since the financial crisis, a combination of low inflation expectations and muted growth prospects has conspired to push Treasury yields down to levels not seen since the Eisenhower administration (1953–1961). Interest rates are the bond market's way of telling the world how it feels about the future. When prospects are good, interest rates must move up to compensate investors who could make more money in riskier assets like equities. When rates move lower, they do so because there is demand for safer and more stable cash flow, even if the investment offers a lower expected return.

Policymakers also play a key role in setting interest rates. Central banks target a level of short-term interest rates consistent with achieving policy goals such as price stability and full employment, and the bond market tends to follow suit. Since 2008, global central banks have been buying government bonds and other securities in the open market to increase the money supply and shrink the available pool of safe assets, enticing investors to take more risk elsewhere.

Higher interest rates driven by economic optimism can be associated with increasing stock prices.

Figure 2. Low rates have been due to muted growth and inflation



Data as of 12/2/2016. Source: Bloomberg.

Interest rates can also respond to the way in which governments manage their budgets. A Treasury that overspends and takes on too much debt may be reined in from time to time by the bond market, which often but not always expresses its displeasure when borrowing is too high by charging governments a higher interest rate.

Whether rates rise because of market forces or due to prodding from policymakers, changes in nominal interest rates can be broken down into two components: the change in expected growth—the real interest rate—and the change in inflation expectations. Whether stocks and other assets perform well or poorly in periods of rising rates can depend greatly on which component—growth or inflation—is driving the move higher.

Ways that interest rates influence stock markets

Because the risk-free rate of interest—the yield on cash held in a bank or on a U.S. government note—is usually the easiest available alternative to any other type of investment, it's often used to value or discount potential returns on stocks. One way to price a stock is to estimate the value of all its future earnings in today's dollars and calculate how much investors would be willing to pay to receive their share of those earnings paid out as dividends. In order to make that calculation, we need to discount—i.e., divide future profits by the expected prevailing interest rate over the period. Using this methodology, a rise in interest rates would, in isolation, mathematically make shares of a company's stock worth less today, likely resulting in a price decline.

Rising interest rates can also enhance or dampen investor risk appetite. We often see this reflected in the price-to-earnings (P/E) ratio, the number by which one would have to multiply a company's earnings to find its price. If interest rates rise due to fears about higher inflation, investors might refrain from taking more risk if they expect an eventual economic slowdown to erode profit margins. They'd be less willing to pay a premium for future earnings, which would lead P/E multiples and stock prices to fall. If, however, rates rise because growth is improving, investors might be comfortable paying higher prices for the same company's earnings stream. In this case, higher interest rates driven by economic optimism can be associated with increasing stock prices.

History does not suggest that a gradual rise in rates from here will bring a sharp correction.

A third way interest rates tend to move stock prices is by changing corporate profitability. Higher interest rates typically create tighter credit conditions in the economy, which make it more difficult for firms to borrow money to hire workers and invest. When conditions are too restrictive, potential earnings growth may be limited. At the extreme, very high interest rates can lead to recession and a bear market—defined as a 20% or greater drop—for stocks.

In some cases, rising rates can also boost earnings. Banks, for instance, rely on steep yield curves to borrow money short term at low rates and lend it over longer periods at higher rates. This practice leads to higher profits when the gap between short-term and long-term rates widens. In recent years, prices of financial firms' stocks have become more interest-rate sensitive as rates have fallen to new lows.

Lastly, interest rates can influence the strength of the U.S. dollar—and vice versa—which can dramatically affect the profitability of companies with significant operations or customer bases overseas. Earnings growth among companies in the S&P 500® Index turned negative in 2015 partially because of a sharp rise in the U.S. dollar against the currencies of our major trading partners. This dollar rally occurred largely as a result of U.S. rates rising sharply relative to plummeting yields in much of the rest of the world.

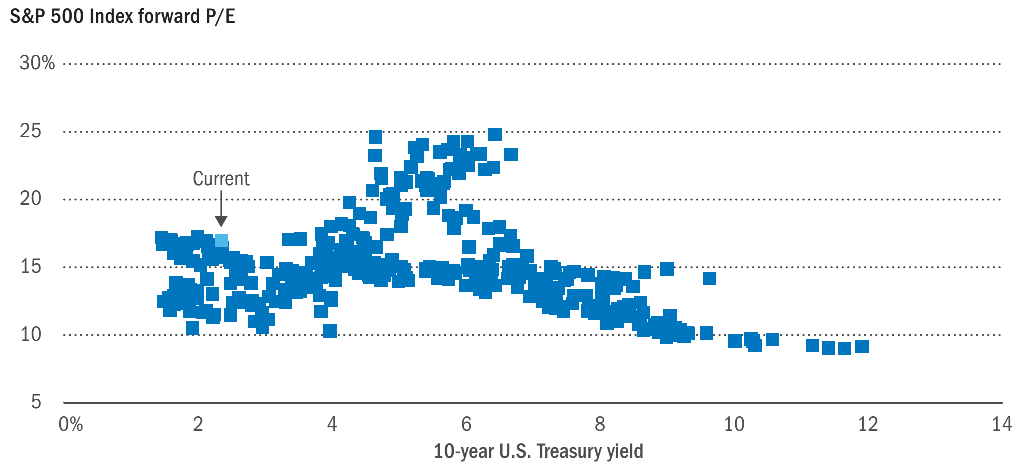
A brief history of rising interest rates

The last bull market for bonds ended just after World War II. Direct historical comparisons can be perilous, particularly when we have to look back over 70 years to make them. But that immediate post-war period bears at least two important similarities to the current one. First, U.S. interest rates were very low—the 10-year Treasury yield dipped below 2.2% in 1946. Second, the Federal Reserve held a massive portfolio of Treasury securities as it helped the government finance the war effort. When rates began to rise appreciably starting in the early 1950s, they did so primarily because growth was picking up. Inflation was low during most of the 1950s and early 1960s, by which point the 10-year yield had reached only 5% but the S&P 500 had risen by 500%. A much more recent example of a period in which interest rates and U.S. equities rose together was 2004 to 2007, when the Fed was gently tightening monetary policy and equities were still recovering from the collapse of the technology stock bubble earlier in the decade.

Adding a quantitative dimension to our history lesson, we turn to how S&P 500 valuations—P/E ratios—have behaved in periods of rising rates. Figure 3 shows a scatterplot of equity valuations at both very low and very high interest rates, dating back to the 1980s. Valuations have been at their highest when interest rates are close to their average range of 4%–6%. When rates have risen from low levels, valuations have been well supported, but when they have climbed to very high levels, valuations have tended to fall. The current S&P 500 valuation is not cheap, but we believe it is fair, and history does not suggest that a gradual rise in rates from here will bring a sharp correction.

Correlations between interest rates and stock prices have shifted from positive to negative and back.

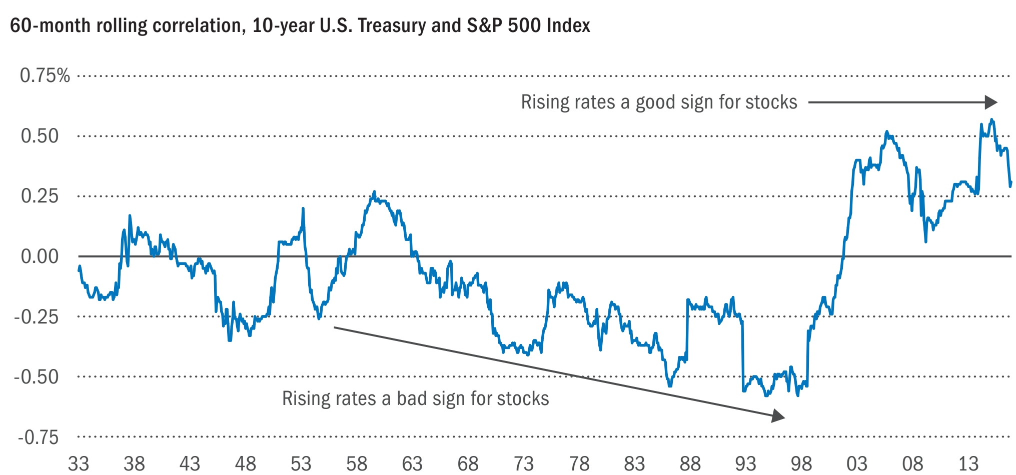
Figure 3. Equity valuations tend to rise as interest rates normalize



Data range: January 1985–November 2016. Source: Factset, Institutional Brokers' Estimate System (I/B/E/S).

Figure 4 makes this point another way by showing the rolling correlation between interest rates and U.S. equities. Rather than remaining steady over time, correlations have shifted from positive to negative and back depending on the nature of the interest-rate regime. When inflation fears caused rates to spike in the late 1960s and 1970s, equities suffered. But when rates recovered from their bottom following the financial crisis, equity markets rallied strongly.

Figure 4. Correlation between rates and stocks shifts over time



Data as of 11/30/2016. Source: Robert Shiller, Bloomberg.

International stocks may outperform when U.S. rates are rising.

The effect of rising rates on international equities

Thus far we have focused only on U.S. stocks when evaluating the impact of rising rates. But most U.S. investors hold—or should hold, for diversification purposes—a significant allocation to international equities, which are priced in foreign currencies. Because economic cycles are not perfectly aligned across the world, U.S. rates do not have as strong a relationship with international equity markets as they do with domestic ones. That can be both good and bad depending, again, on the context. For example, the S&P 500 returned 15.5% during the start of the last Fed tightening cycle from mid-2004 to mid-2006, a solid if unspectacular performance. But international stocks as represented by the MSCI All-Country World ex US Index returned 50.2% for U.S. investors during the same period.

Cyclical differences were a major reason for this divergence in performance. The Federal Reserve began to tighten in June 2004, but its counterpart, the European Central Bank, did not feel compelled to follow suit until December 2005. At the same time, the U.S. dollar weakened throughout the 2000s as capital flowed into other markets seeking higher returns, providing much of the boost U.S. investors received from holding international stocks. The lesson here is that while U.S. stocks can still perform well if U.S. rates are rising, international stocks may perform even better if non-U.S. rates are not. International stocks play a particularly important role in portfolios in the current environment given the strength of the U.S. dollar and the more advanced cycle here compared to Europe, Japan, and many emerging markets.

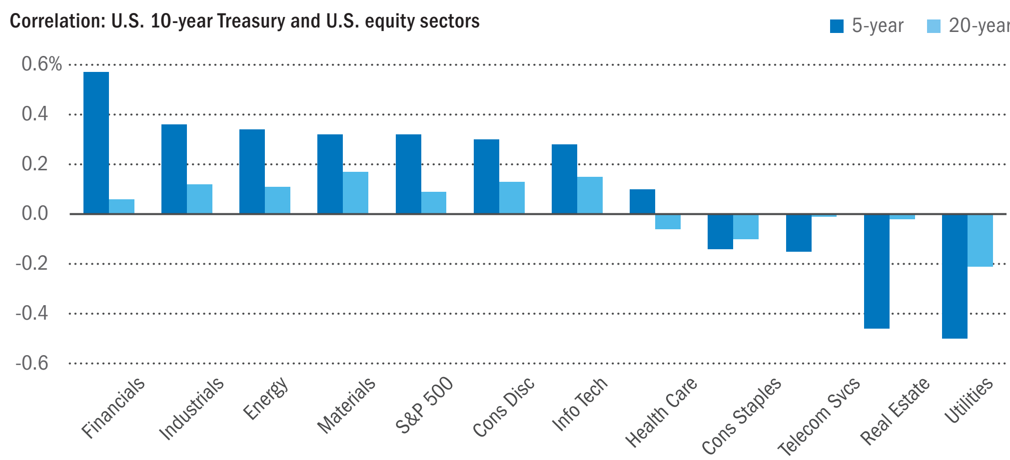
Is anything different this time around?

No two periods of rising interest rates or equity market performance are the same, and two differences between this period and prior ones stand out. First, the correlation between interest rates and stocks has been higher than average. This is even truer of the correlation between rates and individual sectors within equities. Figure 5 compares the correlation of individual S&P 500 sectors to changes in the 10-year Treasury yield over the past 5- and 20-year period. Every sector has had a stronger relationship to rates—some positive, some negative—over the past five years than over the previous 20. This matters greatly for investors who employ security selection or tactical sector allocation in their portfolios.

Sectors like Consumer Staples and Utilities have benefited substantially from the low interest-rate environment, because their dividend yields have been competitive with many segments of the fixed-income market. On the other hand, Financials and Industrials have performed better when rates have risen, as they did in the second half of 2016. The extremely low level of rates and the macro-driven nature of the equity markets in the post-crisis era of Fed quantitative easing have magnified the importance of interest-rate movements on the internal workings of the U.S. equity market. The direction of rates seems likely to remain a major factor for performance across sectors going forward.

Interest rates seem likely to remain a major factor for performance across sectors going forward.

Figure 5. Sector performance more tied to rates today than over the long term



Data as of 11/30/2016. Source: Bloomberg.

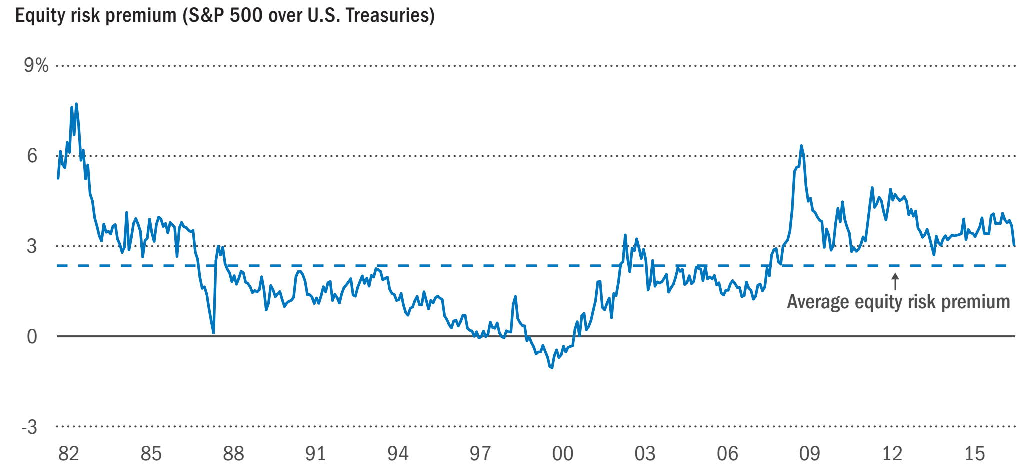
The second factor that makes today's period of rising rates different is that the U.S. economy is at an advanced stage of recovery for interest rates to have only recently bottomed. The 10-year Treasury yield hit new lows just 18 months after the end of the prior recession in 2001. In the current recovery, this process took 90 months (seven years). Should the U.S. avoid recession during the next four years, the current expansion is on pace to be the longest in the country's history.

This U.S. corporate profits cycle and bull market have shown similarly impressive longevity. The rally that began in March 2009 is still going strong without a 20% correction. The downside to this run-up in share prices is that, unlike during prior periods of rising interest rates, starting in the mid-1940s or early 1990s, equities today do not offer particularly attractive valuations. The S&P 500 no longer appears priced for a prolonged period of 10%+ average annual returns, and the bulk of corporate profits growth in this cycle has likely already occurred.

Nonetheless, U.S. stocks continue to look somewhat attractive by historical standards when compared to low-yielding U.S. bonds. One measure investors can use to estimate this relative attractiveness—a useful metric for informing asset allocation decisions—is the equity risk premium. (The equity risk premium is the additional return one expects to receive by owning equities instead of Treasuries over the next five to 10 years.) Today's equity risk premium on the S&P 500 is still above average (Figure 6), mainly because bond yields are below normal. When interest rates rise, this spread tends to narrow, as it's been doing since July 2016.

An improving outlook should result not only in higher interest rates but also in stronger corporate earnings.

Figure 6. Equities still attractive compared to low rates on bonds



Data as of 11/30/2016. Source: Robert Shiller, Bloomberg.

What to do in an equity portfolio when rates rise

Intuitively and mathematically, it's reasonable to believe that rising interest rates will hurt stock prices. But this has not always been the case, particularly over the past 20 years. A rise in interest rates, for example, from 6% to 12% would be unwelcome for equities in most circumstances given the brakes such a jump would put on economic growth and risk appetite. Currently, however, rates are starting their climb from all-time lows in July. Interest rates that depressed reflect expectations for a long period of low inflation and anemic growth. An improving outlook should result not only in higher interest rates but also in stronger corporate earnings and greater risk taking by investors—helping support continued positive equity returns.

There will eventually come a point at which interest rates rise too high for the economy to bear, resulting in a slowdown or contraction in economic growth, i.e., a recession. When this process used to happen with greater regularity way back in the 20th century, it did not prevent stocks from posting impressive returns on average and over time. The best way to protect against the obstacles that rising interest rates pose to U.S. equity returns is to diversify across sectors and regions. Avoiding overconcentration in one or two U.S. market sectors helps ensure that overall performance will not be too reliant—for good or ill—on interest-rate fluctuations. Equally important, allocating appropriately to non-U.S. markets helps smooth out exposure to disruptive cyclical forces, limiting exposure to the U.S. market if and when rising rates begin to have a more harmful effect. Thankfully, we do not believe that time is yet upon us.

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