



The Fed, Yields, and Expected Returns

December 2016

On December 14, 2016, the Federal Open Market Committee (Fed) concluded its final meeting for the year and announced its decision to raise the federal funds target rate from its range of 0.25%–0.50% to 0.50%-0.75%.

As we have mentioned before, Fed watching is a favorite pastime for many market participants who often presume that Fed actions will lead to specific market outcomes. On December 16, 2015, the Fed raised the federal funds target rate for the first time since 2006. As a result, some market commentators believed this was a signal that multiple rate increases would occur in 2016.

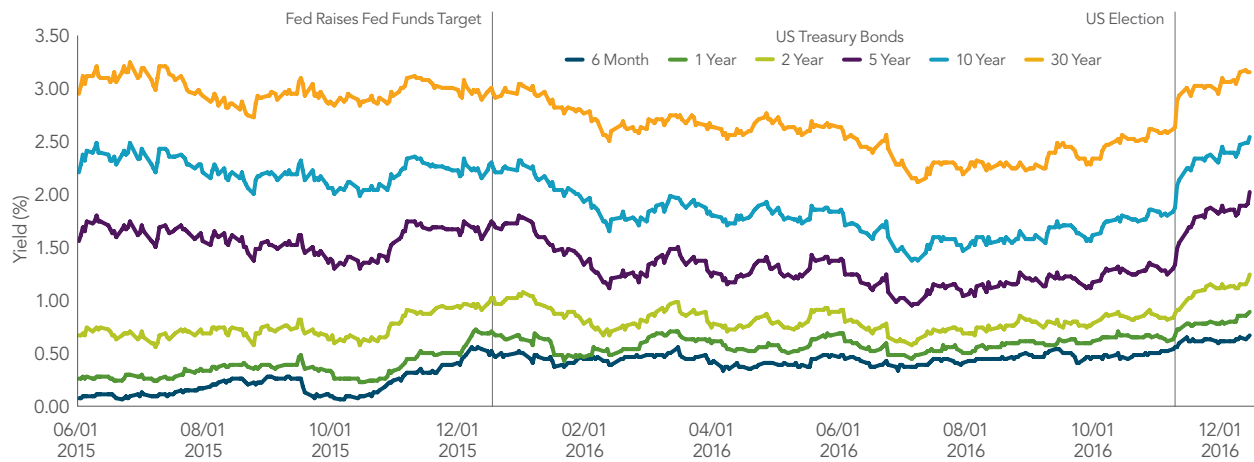
As we now know, the Fed failed to prove the market prognosticators right; the Fed did not change the target rate until its last meeting of the year. Despite this, interest rates in the US have varied throughout the year. In fact, as shown in **Exhibit 1**, immediately following the Fed's rate increase in 2015, yields on many US treasury bonds decreased until the second half of 2016.

Because interest rates in the US began to increase at the beginning of the fourth quarter, it prompts a question: Did the market lead the Fed to raise its key interest rate, or did the Fed lead interest rates higher by setting expectations?

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Trying to answer the question may be futile, however. In liquid and competitive markets such as the US Treasury market, current interest rates represent the expected probability of all foreseeable actions by the Fed and other market forces. Market participants, using publicly available information, estimate the probabilities of different outcomes. Those expectations are collectively reflected in current interest rates. As publicly available information changes, market participants adjust their expectations, which are immediately reflected in new interest rates.

Exhibit 1: US Treasury Yields (%) as of December 14, 2016



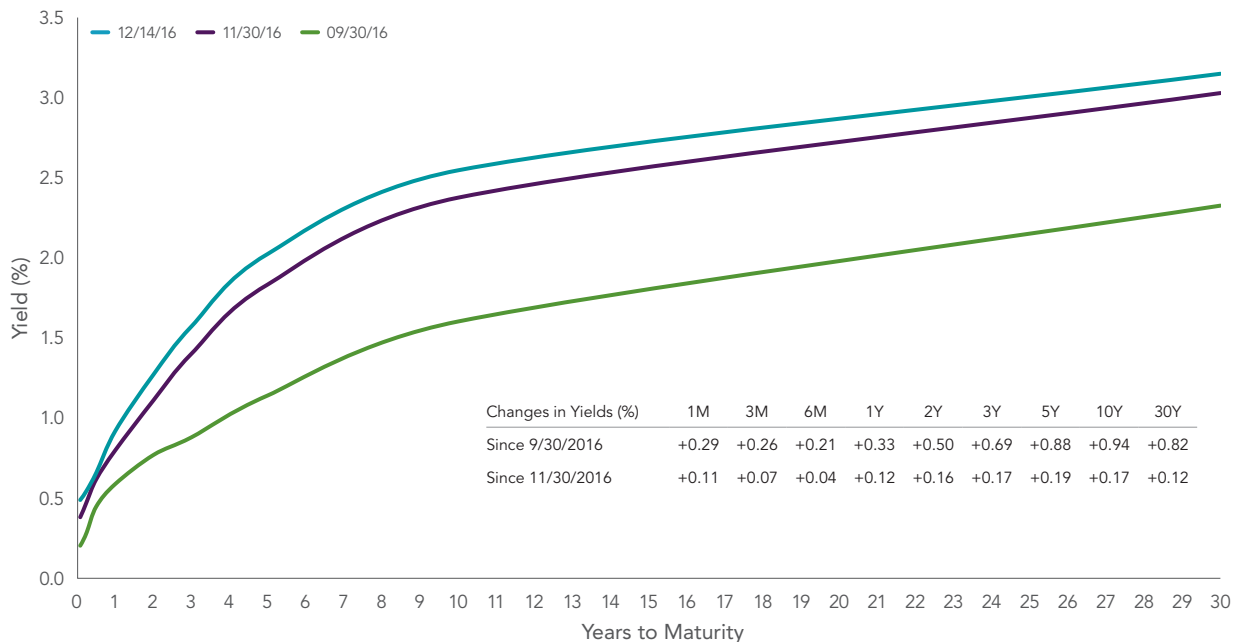
Securities data provided by Bloomberg Barclays LIVE. Bloomberg Barclays data provided by Bloomberg.

While market participants use publicly available information to set expectations, unanticipated future events or surprises relative to those expectations may trigger interest rate changes in the future. The nature of those surprises cannot be known by investors today. As a result, we believe there has been no reliable way found to systematically benefit from trying to outguess

market prices when forecasting changes in interest rates. We can say, however, that there is known and observable information in current interest rates, or bond prices, that we can use to set expectations about future returns.

The expected return of a bond can be decomposed into three components: (1) the yield of a bond

Exhibit 2: US Treasury Yields (%) as of December 14, 2016



Source: US Department of the Treasury.

over its holding period; (2) capital appreciation (or depreciation) of the bond due to the shape of the yield curve; (3) and changes in bond prices due to future changes in yields. As we mentioned earlier, there is no reliable way to predict future changes in yields due to unanticipated future events that are not yet known.

Our research and experience in the fixed income markets informs us that there is reliable information in the first two components of expected return that enables us to use current bond prices to identify securities with higher expected returns.

As we can observe in **Exhibit 2**, yields on US Treasury bonds have increased since the end of September. While the increase in yields has had a negative impact on fixed income returns over the short term, the expected returns of fixed income securities, as observed through the first two components of expected return, have increased.

The first component (yield) has increased as bond prices have decreased. Additionally, as yields on longer-term bonds have increased more, relative to shorter-term bonds, the shape of the yield curve has become steeper. A steeper yield curve increases the second component of expected return (capital gain). As time passes, a bond's maturity and yield decrease as the bond becomes a shorter-term bond. On an upward sloping yield curve, this results in capital appreciation. As a result, the expected capital gain is greater for bonds on steeper yield curves if those bonds are sold before maturity.

We believe using information about expected returns in current prices combined with a long-term focus can serve investors well when pursuing investment goals. So while yields have increased over the fourth quarter, prices today indicate that forward looking expected returns have also increased.¹

APPENDIX

Glossary

Capital appreciation (depreciation): The appreciation (depreciation) in the value of an asset based on a change in market price.

Capital gain: The increase in value of an investment that gives it a higher worth than the purchase price.

Federal funds target rate: The target interest rate at which a depository institution lends funds maintained at the Federal Reserve to another depository institution overnight. This rate is established by the Federal Open Market Committee of the Federal Reserve.

Holding period: The time between a bond's purchase and maturity or sale.

Maturity: The date on which a borrower is required to repay a bond.

Yield: The income return on an investment.

Yield Curve: A graph that plots the interest rates at a specific point in time of bonds with similar credit quality but different maturity dates.

1. Fixed income securities are subject to increased loss of principal during periods of rising interest rates and may be subject to various other risks, including changes in credit quality, liquidity, prepayments, and other factors. Sector-specific investments can increase these risks.

Source: Dimensional Fund Advisors LLC

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