

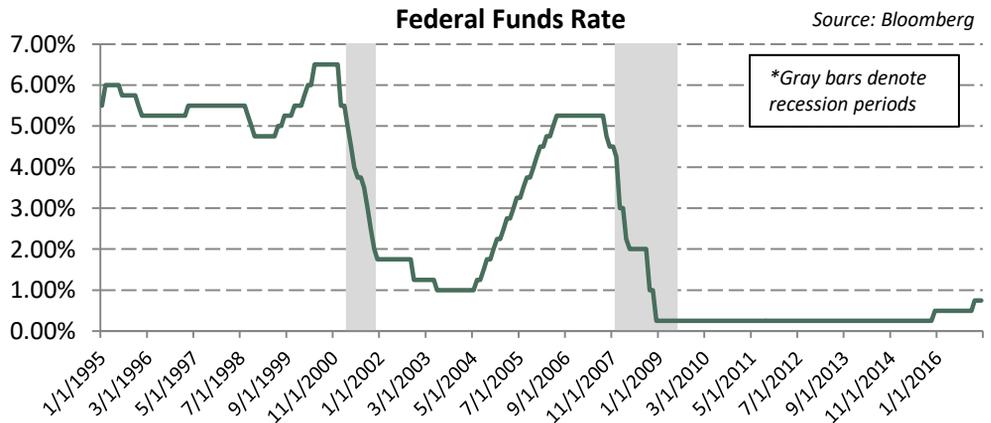
Get Ready for Rising Rates

The possibility of sustained economic growth, improvements in consumer confidence and job creation, as well as an increased willingness by the Fed to entertain a tighter monetary policy are factors signaling to investors that the bond markets may be entering a period of rising interest rates. This represents a secular paradigm shift for short-duration fixed-income investors that have seen rates fall and stay at record lows for nearly a decade. As with any turning point, this potential change will create a number of opportunities to enhance earnings. Likewise, this rise in interest rates may bring risks that short-duration investors must be prepared to navigate in order to ensure the safety, liquidity, and return of their investments.

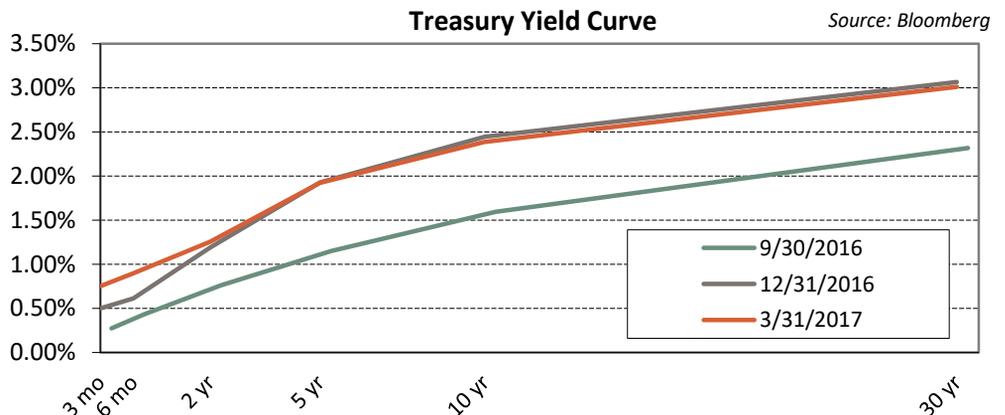
What Changed?

Despite slow growth (1.9% annualized GDP for 4Q 2016), policy makers from the Federal Open Market Committee, which sets the Federal Funds Target Rate, have tightened the key rate twice in the last four months, and have publicly spoken about the possibility of two more rate hikes through 2017. Their conviction for tightening the key rate is bolstered by a number of factors. Among them is a tightening in the labor markets led by the unemployment rate tracking below 5% since May 2016, and payroll increases averaging 194,000 per month on a trailing 6-month basis. Although still below their 2.00% target, core inflation, as measured by the Personal Consumption Expenditures price index, inched closer to the Fed's target, growing at 1.7% year-over-year in January. The pace and number of additional rate hikes will also depend upon economic growth, the timing and magnitude of fiscal stimulus and tax reform, deregulation and the relative strength of the dollar. Among these are hints of possible changes to the Dodd-Frank Act, discussions of higher defense and infrastructure spending, increased protectionist rhetoric from the White House, suggestions of corporate tax cuts, and a reworking of the personal income tax structure. If indeed these forces foreshadow a cycle of rising rates, fixed-income investors will benefit from reviewing their investment programs to ensure that their portfolios are ready for the change. Here's a list of some factors to consider:

Recent rate hikes by the FOMC may signal the beginning of a tightening cycle.



Rates have begun to rise as investors anticipate the beginning of a Fed tightening cycle, with two tightenings in four months.



How Does This Change Impact My Portfolio?

Fixed-income investors primarily seek return from their bond portfolios from two sources: (1) interest income (yield), and (2) value appreciation. The combination of these two sources of return is known as “total return,” which provides investors with a holistic measure of their portfolio’s overall performance. Interest income increases when rates rise because investors have the opportunity to invest new or maturing funds at increasingly higher rates, enhancing the overall income/yield of their portfolio. This is a plus for investors focused on cash flow because the increasing yield provides higher, known cash flows in the form of higher interest payments that, save for a default, can be counted on for budgeting purposes. An investor’s ability to capture higher yields will depend on how long their current portfolio is invested. Portfolios with a longer average maturity generally must wait longer for funds to be available to reinvest, which touches upon the second return driver, value appreciation. As rates rise, other investors have the option of purchasing newly-issued bonds similar to your securities, but which are paying a higher yield, making your existing holdings decrease in value. For many investors, particularly if they hold their investments to maturity, this unrealized loss has very little impact on their portfolio, as the known cash flows from earned interest do not change.

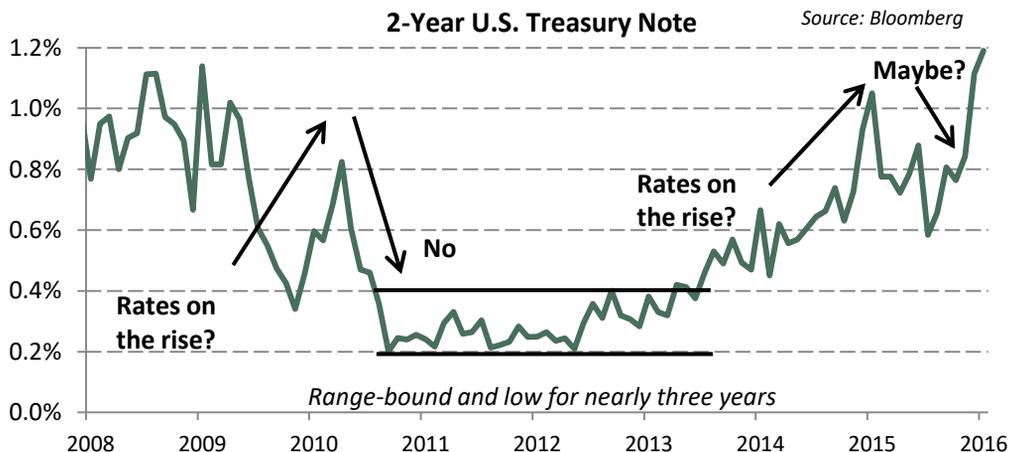
Nevertheless, this loss does impact the market value of the investment in the case that a bond will be sold before maturity to generate cash, or in cases where the investment approach favors targeting a maturity range, and periodic rebalancing is necessary. For public agency investors, the

impact is captured in the agency’s financial statements, where earnings are netted against unrealized gains or losses. Most bond managers will seek yield, and also work to increase the value of the principal in their portfolio using time tested disciplined strategies focused on duration, portfolio structure and sector allocation.

Should I Keep My Funds Liquid Until Rates Rise?

A rising rate environment represents an opportunity cost to investors that lock their funds up in longer-term securities (this cost is reflected in the falling value). As a result, many investors are tempted to seek out the most liquid investments like short-term pools or money market mutual funds and wait until a time when they feel rates have risen to a level that seems attractive. While this approach has its benefits (short-term investment pools can reinvest faster in an increasing rate environment, temporarily outperforming longer-term investments), there are a number of problems with this strategy. It is very difficult to predict the direction, magnitude, and timing of an interest rate change, placing cash flows from earnings in jeopardy if rates begin to fall and the pool resets at lower rates. More importantly, over long-term holding periods, short-term pools underperform longer-term investments because their average yield over time is lower than securities with longer maturities. Therefore, investors also incur the opportunity cost of earning lower short-term yields as they continue to wait for an optimal time to invest in higher yielding longer-term securities.

The direction, magnitude, and timing of interest rate changes is very difficult to predict.



What Should I do?

- Diversify Maturities:** Bond managers will always look to diversify their holdings, not only by sector and issuer, but also by maturity. Special attention is usually given to the term structure of the portfolio, with many managers opting for a shift to a “barbell” structure when rates are rising, where portfolio funds are concentrated in both the shorter and longer end of their allowed maturity range to provide liquidity for reinvestment, as well higher yields from longer-term securities.
- Be Careful with Callable Securities:** Callable securities provide the issuer with the right, but not the obligation to redeem the security on pre-specified dates prior to maturity. Effectively, the investor is selling the issuer a call option for a slightly higher yield in order to allow the issuer to refinance their debt if rates fall. Some investors find callable bonds attractive because of the yield premium relative to their non-callable counterparts, and count on the call feature to provide liquidity, but there are pitfalls associated with this approach. If rates fall, investors are forced to reinvest funds from called securities in lower than anticipated rate levels, eliminating cash flows from earnings the investor might have been counting on. In a rising rate environment, issuers are less likely to call the bond early, effectively extending the maturity of the security and locking into a rate. Unfortunately, the additional yield offered for the call feature rarely compensates investors for the risk associated with callables. Additionally, callables can negatively affect the price sensitivity of the portfolio more than their non-callable counterparts as interest rates continue to climb. Instead of callable securities, investors may look to ensure the timing of cash flows and control overall portfolio duration by purchasing non-callable securities, and limit price volatility by maintaining an overall shorter-than-normal duration as rates rise.
- Take the Long-Term View:** Many bond managers work to minimize the impact of changing rates by targeting a range of maturities and staying within that range through changing interest rate cycles. The advantage of this is that the range of maturities will have a known duration (a risk measure quantifying the price sensitivity of an investment to changes in interest rates), which provides investors with a level of expected volatility and return. Over a long-term holding period, investors are able to quantify the amount of return generated, and can make better-informed decisions regarding the value of targeting longer versus shorter duration portfolios.

Performance as of March 31, 2017

Index	Duration	10-Year Total Return	Growth of \$20 Million Investment
BAML 3-Month Treasury Bill Index	0.24 years	0.68%	\$21,408,758
BAML 1-Year Treasury Index	0.99 years	1.31%	\$22,788,966
BAML 1-3 Year Treasury Index	1.89 years	2.00%	\$24,375,108
BAML 1-5 Year Treasury Index	2.70 years	2.65%	\$25,978,827

Longer-duration strategies have outperformed shorter-duration strategies over time.

Source: Bank of America Merrill Lynch Indexes; Bloomberg. Past performance is not indicative of future results. Index returns are unmanaged and reflect the reinvestment of income dividends and capital gains, if any, but do not reflect fees, brokerage commissions or other expenses of investing. One cannot invest directly in an index. Index data obtained from sources believed to be reliable, but we do not guarantee its accuracy. Please see Index Disclosures attached.

This allows investors to optimize their portfolios to comfortable risk levels, while maximizing return, and meeting cash needs. Targeting a specific range of maturities with a known duration also has the advantage of providing a portfolio that can be compared to industry benchmarks to understand how the portfolio is performing relative to the market in which it invests.

Summary

Though bond valuations will be under pressure, rising rates present great opportunities to enhance portfolio return. As with any fixed-income investment program, investors should look to ensure their investment policies are up to date, confirm that their investment structure supports their cash needs, and seek to structure their portfolios to be resilient in this changing rate environment, while generating a competitive, risk-adjusted return.



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91 Day T-bill

The 91-day T-Bill Index is a single security index comprised of the current 91-day T-Bill.

Bank of America Merrill Lynch 1 Year US Treasury Index

The Bank of America Merrill Lynch 1 Year US Treasury Index is comprised of US Treasury securities issued by the US Government. All securities in the index must have fixed coupon rates and have one year to maturity regardless of any call features.

Bank of America Merrill Lynch 1-3 Year US Treasury Index

The Bank of America Merrill Lynch 1-3 Year US Treasury Index is comprised of US Treasury securities issued by the US Government. All securities in the index must have fixed coupon rates and have at least one year but not greater than three years to maturity regardless of any call features.

Bank of America Merrill Lynch 1-5 Year Treasury Index

The Bank of America Merrill Lynch Treasury 1-5 Year Index is comprised of US Treasury securities issued by the US Government. All securities in the index must have fixed coupon rates and have at least one year but not greater than five years to maturity regardless of any call features.