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Positioning bond portfolios for rising interest rates

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EXECUTIVE SUMMARY

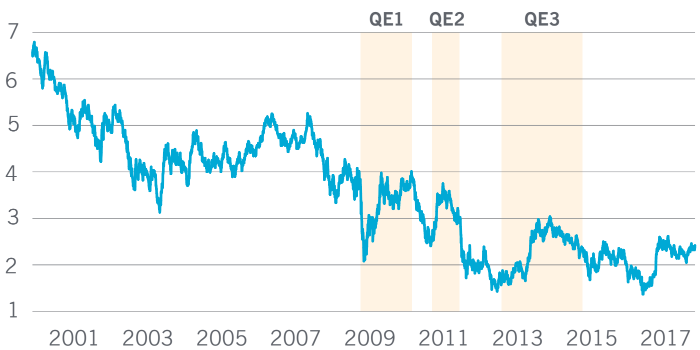
- Continued Federal Reserve Board (Fed) tightening, stronger U.S. growth, and potential fiscal stimulus have created a more challenging macro environment for fixed income, but we don't anticipate extreme rate increases that would lead to steep bond-market losses.
- We believe U.S. interest rates will continue to face upward pressure in 2018, with a trend toward a flatter yield curve.
- History shows that fixed-income performance has tended to be resilient after rates rise.
- Strategies that offer diversified, actively managed exposure to a range of fixed-income securities may be best positioned to withstand the potential impact of rising rates.
- Fixed income can continue to play an important and useful role in our clients' portfolios, if managed effectively.

STRONGER GROWTH AND A TIGHTENING FED SET THE STAGE FOR HIGHER LONG-TERM RATES

With the U.S. economy picking up steam and the Federal Reserve continuing to raise short-term interest rates, the prospect of higher long-term rates has also come into focus. The closely watched 10-year Treasury yield, for example, which has remained largely below anticipated levels since the start of the current recovery in 2009, may be poised to climb. While we don't foresee extreme increases that would cause steep bond-market losses, a significant rise in the 10-year yield could occur if new fiscal stimulus (including tax cuts) leads to higher-than-expected inflation in an economy already at full employment. That said, even a sizable 100-basis-point (1%) jump from current levels would only lift the 10-year yield to about 3.5% — close to its historical average over the past two decades. (See Exhibit A.)

Exhibit A: Treasury yields have rebounded from all-time lows

*10-year U.S. Treasury yield (%), daily closing values, 2000–2017**



*Through 11/30/2017. Source: Federal Reserve.

We view a short-term spike to this level as unlikely, as the Fed currently estimates its federal funds target rate would be at equilibrium (representing neither loose nor tight monetary policy) at only 2.75%, reflecting potential challenges for U.S. GDP growth and secular trends globally weighing on inflation.

Bond markets as a rule tend to respond negatively to stronger inflation and higher interest rates, so a degree of concern and caution is warranted even if rate increases turn out to be relatively mild. In the pages that follow, we identify three considerations for investors seeking to weather the potential impacts of rising rates on fixed-income performance.

> *A more significant rise in longer-term interest rates could occur if new fiscal stimulus (including tax cuts) leads to higher-than-expected inflation.*

THREE CONSIDERATIONS FOR FIXED-INCOME INVESTORS

Because current market conditions differ from those in previous periods when interest rates rose, it is difficult to know what to expect in a rising rate environment by looking at past experience alone — especially given the unprecedented levels of central bank accommodation that followed the global financial crisis. Still, investors can better prepare for higher rates by understanding the various ways in which different types of fixed-income securities and investment vehicles may respond when rates rise, and by understanding the dynamics shaping the composition of today's fixed-income markets.

1. Diversification matters.

DIFFERENT TYPES OF FIXED-INCOME SECURITIES RESPOND DIFFERENTLY TO RISING RATES

Sensitivity to interest-rate movements can differ substantially based on duration, credit quality, and type of security. In general, corporate bonds (both investment-grade and high-yield), floating-rate notes, emerging-market debt, shorter-term issues, and certain types of structured securities may reduce the risk of losses during periods of rising rates. When Treasury rates rise, credit spreads can tighten as the market supports a shift to riskier asset classes. This is largely because improving economic conditions typically lead to lower expected default rates for credit sectors, making them a potentially better relative value with a more favorable risk/reward tradeoff than Treasuries.

In recent years, examples of significant rate movements and fixed-income performance bear this out. Between January 2009 and March 2017, there were seven periods in which the 10-year Treasury yield rose by 60 basis points or more. During those periods, total returns for fixed-income markets varied widely, demonstrating the value of diversification.[1] Performance based on the average of returns for all seven periods is listed and ranked by category in Exhibit B.

1 Diversification does not guarantee against market losses.

Exhibit B: Which fixed-income sectors tend to outperform when interest rates rise?

Average of total returns over seven periods of rising rates (ranked from highest to lowest within categories)

Asset class/sector	
High Yield	12.13%
Global EM	2.76%
Floating Rate Notes	1.97%
Corporate	0.26%
Securitized	-0.33%
Municipal	-0.68%
Agencies	-1.22%
U.S. Aggregate	-1.52%
Treasuries	-3.73%
Treasury 20+ Yr	-15.06%

Maturity	
1-3 Yr	0.59%
3-5 Yr	-0.06%
5-7 Yr	-1.04%
7-10 Yr	-2.66%
10+ Yr	-7.87%

Quality	
Baa	1.85%
A	-0.45%
Aa	-1.31%
Aaa	-1.93%

Securitized	
CMBS	3.78%
ABS	2.84%
U.S. MBS	-0.68%

Seven periods of rising interest rates, 2009 - 2017

Dates	Number of days	Change in 10-year Treasury yield	Overall bond market return (%)*
Jan 1, 2009 – Dec 31, 2009	365	+139 bps	5.93
Oct 8, 2010 – Feb 8, 2011	123	+134 bps	-3.09
Sep 22, 2011 – Oct 27, 2011	35	+70 bps	-1.68
Jul 25, 2012 – Mar 11, 2013	229	+64 bps	-0.44
May 1, 2013 – Sep 5, 2013 ("taper tantrum")	127	+132 bps	-4.85
Feb 2, 2015 – Jun 10, 2015	128	+82 bps	-2.80
Jul 5, 2016 – Mar 13, 2017	252	+123 bps	-3.68

*Based on the Bloomberg Barclays U.S. Aggregate Bond Index

Sources: Bloomberg, TIAA Investments. Total returns for all categories shown are based on the respective components of the Bloomberg Barclays U.S. Aggregate Bond index, except as follows: high yield (Bloomberg Barclays U.S. High Yield Index); global emerging markets (Bloomberg Barclays Global Emerging Markets Index); floating-rate notes (Bloomberg Barclays U.S. Floating Rate Notes Index); and municipal (Bloomberg Barclays U.S. Municipal Bond Index). It is not possible to invest in an index. Index performance does not reflect investment fees or transaction costs. Past performance is no guarantee of future results, and there is no assurance that bonds will perform similarly if interest rates rise sharply from current levels.

On average, longer-maturity, higher-rated bond sectors underperformed during periods when Treasury yields were rising, while shorter-term, lower-rated, and securitized assets outperformed. Among the 21 fixed-income categories we studied, the disparity in performance was dramatic, with a gap of 27.19% between the highest and lowest average returns.

In seven previous rising-rate periods, returns for different bond sectors varied widely, demonstrating the value of diversification.

2. Active management may offer advantages over indexing.

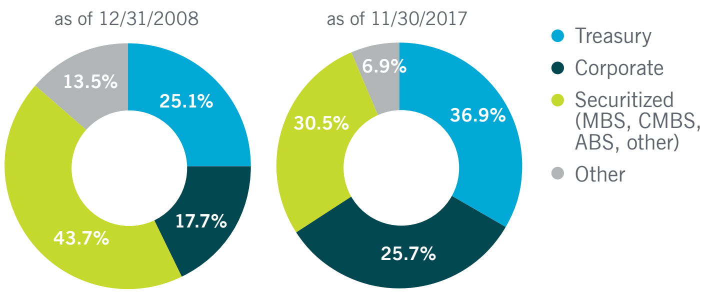
GREATER FLEXIBILITY CAN HELP MITIGATE INTEREST-RATE SENSITIVITY

In the past several years, public debt has crowded out private debt. For bond indexing strategies, the result has been much greater representation of Treasury securities, longer duration, and heightened sensitivity to interest rates. As shown in Exhibit C, since the depths of the last recession in December 2008, the Treasury sector weighting in the Bloomberg Barclays U.S. Aggregate Bond Index has grown from 25.1% to 36.9% — largely due to increased issuance by the U.S. Treasury based on large fiscal deficits over that period. Corporate bonds have also grown as a share of the index (albeit to a lesser degree), with companies taking advantage of low rates to refinance debt, extend maturities and change their debt mix to reduce their cost of capital.

In contrast, securitized assets, including mortgage-backed securities (MBS), commercial mortgage-backed securities (CMBS), asset-backed securities (ABS), and other structured securities, decreased between 2008 and 2017. This decline reflects curtailment of "private label" (non-agency) MBS issuance because of credit quality concerns following the subprime mortgage crisis, along with diminished MBS supply due to more stringent underwriting standards from issuing agencies.

Exhibit C: Benchmark composition has changed

Sector weightings in the Bloomberg Barclays U.S. Aggregate Bond Index show growth in Treasuries



Source: Bloomberg

These market dynamics have resulted in steadily growing demand for a shrinking supply of "spread sector" products (higher-yielding, non-Treasury debt instruments), as fixed-income investors seek securities that represent compelling relative value, generate sustainable income, and are likely to be more resilient under a range of economic circumstances.

Identifying such opportunities requires a careful, discriminating approach to security selection — which tends to favor active managers. Compared with indexed portfolios, actively managed portfolios have greater flexibility to avoid the increased exposure to interest-rate risk currently reflected in broader market indexes. Accordingly, fixed-income investors may be better served by choosing active portfolios with a proven record of diversified sector allocation and effective security selection across all phases of an economic cycle.

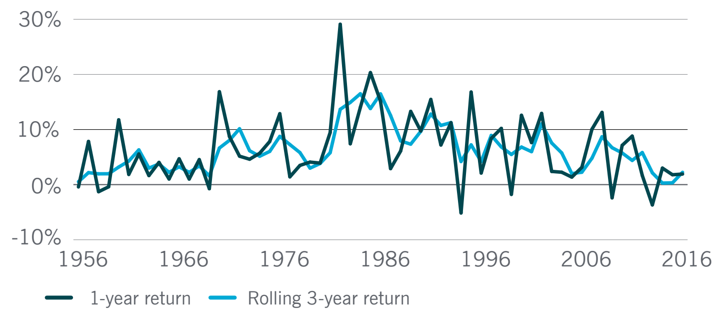
3. Bond markets have shown resilience following rate increases.

HISTORY OFFERS SOME PERSPECTIVE ON INTEREST RATES AND MARKET PERFORMANCE

While fixed-income losses due to rising interest rates present a risk, corresponding market fears may be disproportionate to the severity and lasting impact of the losses actually incurred. Such fears are based partly on exaggerated expectations for the scope of future rate increases.

Assuming at least moderate rate increases are on the horizon, it's natural to try to anticipate their likely impact. We can look to history to see how fixed-income markets have performed when rates were rising, recognizing that the past may provide useful context but is not a predictor of future outcomes, as economic and market cycle conditions are never identical.

Exhibit D: When rates climbed, one-year losses reversed fairly quickly



Sources: Ibbotson Associates, TIAA Investments

What happens when rates rise sharply? As this graph shows, since 1956, there have been five years — 1959, 1969, 1994, 1999, and 2013 — in which long-term interest rates[2] jumped by at least 50 basis points (+0.50%) over the course of the year and intermediate-term government bonds[3] realized losses for that year. Returns for those years were -0.39%, -0.74%, -5.14%, -1.77% and -3.68%, respectively. However, those one-year losses reversed relatively quickly. Three-year returns (encompassing the current year and the subsequent two years) for 1959, 1969, 1994, 1999, and 2013 were 1.97%, 1.58%, 4.19%, 5.47%, and 2.14%, respectively. In fact, despite eight instances of negative one-year returns since 1956, average annualized returns for intermediate-term U.S. government bonds have been positive over all rolling 3-year periods. Of course, past performance is no guarantee of future results, and there is no assurance that bonds will perform similarly if interest rates rise sharply from current levels.

2 As measured by the Ibbotson Associates Stocks, Bonds, Bills, and Inflation (SBBI) US Long-Term Government Bond Yield.

3 As measured by the Ibbotson Associates Stocks, Bonds, Bills, and Inflation (SBBI) US Intermediate-Term Government Total Return USD index. It is not possible to invest in an index. Index performance does not reflect investment fees or transaction costs.

Still, our analysis shows that bond markets have tended to be resilient, bouncing back after initially incurring losses during rising rate environments. For example, based on previous periods when interest rates were increasing, intermediate-term government bonds realized losses of ranging from about 0.4% to more than 5% over one-year time frames. As illustrated in Exhibit D, however, those short-term losses reversed over medium-term time frames. In fact, average annualized returns for intermediate-term U.S. government bonds have been positive for all rolling three-year periods going as far back as 1926.

There is no guarantee that fixed-income markets will repeat this pattern of short-term reversals when the next interest-rate cycle plays out. Nonetheless, in the long run, the risk of being underexposed to fixed income due to market timing may outweigh the risk of exposure to rising interest rates. Investors who maintain a longer-term focus and resist the impulse to react to short-term volatility are more likely to benefit from the positive returns of fixed-income assets over time. For this reason, we think investors are well-advised to maintain consistent, strategic exposure to fixed income.

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CAVEATS AND POTENTIAL RISKS

While our analysis provides perspective on historical trends and market characteristics that are relevant in a rising rate environment, there are factors that could cause market scenarios and outcomes to diverge from expectations.

Our base case calls for overall U.S. interest rates to rise moderately in 2018, with a continued bias toward flatter yields across the curve. This reflects our view that stronger economic growth and a tighter labor market will continue, keeping the trajectory of Fed rate hikes intact despite persistently low inflation. The Fed believes inflation will eventually accelerate toward its 2% target.

Rates could rise more quickly than anticipated, however, if U.S. fiscal stimulus turns out to be larger than markets currently envision, or if wage growth, oil prices, or other economic indicators materially surprise to the upside, leading to significantly higher inflation expectations. The possibility of stronger inflation could be heightened if the beginnings of synchronized global growth that we saw in 2017 continue.

On the other hand, while U.S. Treasury yields are still relatively low, they remain higher — and thus more attractive — than yields generally available on other developed-market government bonds. Global demand for the higher yields offered by Treasuries could continue to push their prices up and their yields down. (Price and yield move in opposite directions.) Additionally, a late-cycle correction or stabilization in equity values, were it to occur, could potentially lead to greater support for fixed income.

Lastly, a rise in Treasury yields could stall or conceivably reverse course temporarily in the face of a major geopolitical shock that sends risk-averse investors scrambling for safe-haven assets. The unpredictable political landscape both at home and abroad makes this a genuine risk.

CONCLUSION

We believe fixed-income exposure can continue to play a useful role in our clients' portfolios, if managed effectively, despite the vulnerability of bond valuations to rising interest rates.

- Investors who maintain diversified, actively managed exposure to a range of fixed-income securities may be better positioned to withstand the potential impact of rising interest rates than investors with index-like or more concentrated exposures.
- Investors are often better served by maintaining consistent, strategic exposure to fixed income over time rather than opportunistically trying to time rotations among equity, fixed income, and other asset classes.

While there can be no guarantees, fixed-income strategies that consider the issues and perspectives explored in this paper may offer a degree of protection and a sound basis for navigating ever-changing markets.

For more information, please visit nuveen.com.

Glossary

Duration: An approximate measure of a bond's sensitivity to rising interest rates.

Credit quality: A measure of the creditworthiness of a bond, debt or financial obligation.

Structured securities: Complex debt instruments created to meet needs that cannot be met from traditional financial instruments available in the markets.

Bloomberg Barclays U.S. Aggregate Bond Index: A benchmark measuring the performance of the U.S. investment-grade bond market, including government securities, mortgage-backed securities, asset-backed securities and corporate securities.

Bloomberg Barclays U.S, Corporate High Yield Index: A benchmark measuring the performance of U.S. corporate bond securities rated below investment grade.

Bloomberg Barclays Global Emerging Markets Index: A benchmark measuring performance of U.S. dollar and Euro denominated bonds issued by emerging markets in Americas, Europe, Middle East, Africa and Asia.

Bloomberg Barclays U.S. Floating Rate Notes Index: A benchmark measuring performance of bonds issued with a yield that rises or falls with changes in interest rates.

Bloomberg Barclays U.S. Municipal Bond Index: A benchmark measuring performance of the market for U.S. investment-grade bonds issued by local and state governments.

Mortgage-backed securities: A type of security that is backed by payments from a mortgage or a collection of mortgages.

Commercial mortgage-backed securities: A type of security backed by payments from mortgages on commercial properties, instead of residential real estate.

Asset-backed securities: A type of security typically backed by payments from loans other than mortgages, credit cards, auto loans and home-equity loans.

U.S. Long-Term Government Bond Index: A benchmark of bonds issued by the U.S. government and its agencies, with maturities greater than 10 years.

U.S. Intermediate Government Bond Index: A benchmark of bonds issued by the U.S. government and its agencies, with maturities generally between three years and 10 years.

U.S. Treasury Bonds: Securities issued by the U.S. government with maturities greater than 10 years.

RISKS AND OTHER IMPORTANT CONSIDERATIONS

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