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TIAA GLOBAL ASSET MANAGEMENT

Positioning bond portfolios for rising interest rates

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Executive summary

- After a number of starts and stops since the end of the financial crisis, U.S. interest rates reached another inflection point this year, with the 10-year Treasury yield rising by more than a percentage point since its record low in July 2016.
- The prospect of further Fed tightening, stronger U.S. growth, and potential fiscal stimulus has created a less supportive macro environment for fixed income, but we don't anticipate extreme rate increases that would lead to steep bond-market losses.
- Although likely to pick up over the next two years, the pace at which the Fed hikes short-term rates should remain comparable to the experience of past tightening cycles.
- 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.

Treasury yields climb as the economy and Fed shift into higher gear

The current U.S. economic expansion has been one of the longest and slowest in history. Unlike past periods of growth, during the recovery from the global financial crisis and recession of 2007–2009, long-term interest rates have failed to rise in a convincing or sustainable manner. In fact, between October 31, 2008, and October 31, 2014—a span encompassing three rounds of quantitative easing (QE) by the Federal Reserve—the bellwether 10-year U.S. Treasury yield fell from 4.01% to 2.35%, hitting a then-record-low close of 1.43% along the way, in July 2012.

While the 10-year Treasury yield is rising off historic lows, we don't anticipate extreme increases that would lead to steep bond-market losses.

Exhibit A. Having plumbed new lows, the 10-year yield should continue to rise

10-year U.S. Treasury yield (%), daily closing values, 2000–2016*

* Through November 30, 2016. Source: Haver Analytics/U.S. Treasury Department.

The 10-year yield finally seemed to be on the rise again in 2013, finishing just over 3% at year-end. With the Fed tapering its large-scale purchases of Treasuries and other fixed-income assets in 2014, yields were expected to rise further, as demand for them would no longer be distorted by such unprecedented stimulus. Instead, the 10-year yield resumed its decline in 2014, despite the U.S. economy's moderate strengthening and the end of QE.

Meanwhile, the Fed maintained a wait-and-see, data-dependent approach in assessing its twin goals of full employment and a 2% target inflation rate, waiting more than a year after the end of QE to finally raise its target federal funds rate (the rate at which banks charge each other for overnight loans) by 25 basis points (0.25%), from a range of 0%–0.25% to 0.25%–0.50% in December 2015. Following this increase—the first Fed rate hike in nearly a decade—the 10-year Treasury yield was again widely expected to rise. Instead, the yield tumbled in the first seven months of 2016, closing at a new all-time low of 1.37% in July.

The Fed's reluctance to raise short-term rates in the face of the moderate improvement in U.S. economic data was only one factor keeping U.S. yields low in recent years. Among the others were:

- **Falling oil prices.** A nearly 60% collapse in oil prices between June 2014 and March 2015 drove fears of broader deflationary pressures and weakening global demand. Oil prices continued to struggle through the remainder of 2015 and into 2016, ultimately bottoming at about $26 per barrel in January 2016 before climbing in the spring to between $45 and $50, where they remained as of the end of November.
- **A stronger U.S. dollar.** The dollar gained 25% against a trade-weighted basket of major foreign currencies between January 2014 and November 30, 2016. This lowered prices of imported goods for U.S. consumers, helping to keep a lid on overall inflation, and thus interest rates.
- **Increased global appetite for Treasuries.** Even at suppressed levels, U.S. Treasury yields were attractive to global fixed-income investors, given negative interest rates and aggressive central bank easing in Europe and Japan. Price and yield move in opposite directions, so as Treasury prices were boosted by strong demand, their yields fell.
- **Fears of a global economic slowdown.** Concerns about weakening global growth—especially given the deceleration of China's economy and the devaluation of its currency, the yuan—fueled bouts of volatility in financial markets in the fall of 2015 and early 2016, prompting investor flights to quality that benefited Treasuries and other safe-haven assets.

After several false starts, it now appears interest rates have finally hit an inflection point and are poised to climb.

At long last, a true inflection point?

Since the July 2016 trough in the 10-year yield, U.S. economic activity and inflation expectations have picked up, pushing long-term rates higher. GDP grew at an annualized rate of 3.2% in the third quarter of 2016, according to the government's second estimate, marking the fastest pace of expansion in two years. Growth in the quarter was driven largely by a robust 2.8% gain in consumer spending. Meanwhile, the labor and housing markets have remained healthy, signs of nascent wage growth are beginning to appear, and consumer and business confidence have climbed. Against this backdrop, the 10-year Treasury yield jumped nearly half a percentage point between July 5 and October 31.

The surprising U.S. election results caused a further spike in the yield, which surged from 1.88% to 2.37% between Election Day and November 30. This upward move reflects the bond market's anticipation of firming growth and higher inflation, bolstered by the prospect of stimulative policies from the incoming Trump administration, including tax cuts for individuals and corporations, foreign cash repatriation, and new domestic infrastructure spending.

In our view, after several false starts, it now appears interest rates have finally hit an inflection point and are poised to climb. We expect the 10-year Treasury yield will continue to rise, likely reaching 3% or higher by the end of 2017 and levels above that in 2018. Additionally, our current forecast calls for the Fed to hike the federal funds rate by 25 basis points three times in 2017 (a total of 75 basis points), to a range of 1.25%–1.50%, with up to five increases of similar scope possible in 2018. While interest rates overall will rise, we don't think they will do so at an extreme pace that would lead to steep bond-market losses. Any period of rising rates, however, entails some risk. In the pages that follow, we identify three factors that we believe will be essential to a successful fixed-income strategy in the rising rate environment to come.

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. 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 provide greater protection from 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 six previous rising-rate periods, returns for different bond sectors varied widely, demonstrating the value of diversification. We are now in a seventh such period and seeing initially similar results.

In recent years, examples of significant rate movements and fixed-income performance bear this out. Between January 2009 and June 2015, there were six 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. Performance based on the average of returns for all six periods is listed and ranked by category in Exhibit B.

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

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

Asset class/sector		
1	High Yield	12.73%
2	Global EM	3.12%
3	Floating-Rate Notes	2.02%
4	Corporate	0.77%
5	Securitized	0.02%
6	Municipal	-0.22%
7	Agencies	-1.06%
8	U.S. Aggregate	-1.15%
9	Treasuries	-3.45%
10	Treasuries 20+ Year	-13.33%

Quality		
1	Baa	2.47%
2	A	0.10%
3	Aa	-0.91%
4	Aaa	-1.59%
Maturity		
1	1–3 Years	0.75%
2	3–5 Years	0.21%
3	5–7 Years	-0.71%
4	7–10 Years	-2.19%
5	10+ Years	-7.44%
Securitized		
1	CMBS	4.91%
2	ABS	3.40%
3	MBS	-0.40%

Six periods of rising interest rates, 2009–2015

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

* 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 26.06% between the highest and lowest average returns.

We are now in the midst of a seventh such period of increase in the 10-year yield. From its all-time closing low on July 5, 2016, the yield has climbed a full percentage point, to 2.37%, as of November 30. While we don't know how much longer this period will extend or how much higher the yield will climb, we can see the value of fixed-income diversification over the course of the 148 days that have already transpired. As in the previous six periods, there is a wide disparity of returns among sectors, from -14.74% for Treasuries with maturities of 20 or more years to 4.86% for high-yield corporate bonds.

Actively managed portfolios have greater flexibility to avoid the increased exposure to interest-rate risk currently reflected in broader market indexes.

In addition to high yield, several other areas of the market that historically have weathered rising-rate periods relatively well—including floating-rate notes, shorter-term issues, and asset-backed securities—are doing so again, while many longer-dated and better-quality categories are underperforming. It's important to remember that in general, high-yield securities remain vulnerable to periods of risk aversion and spread widening.

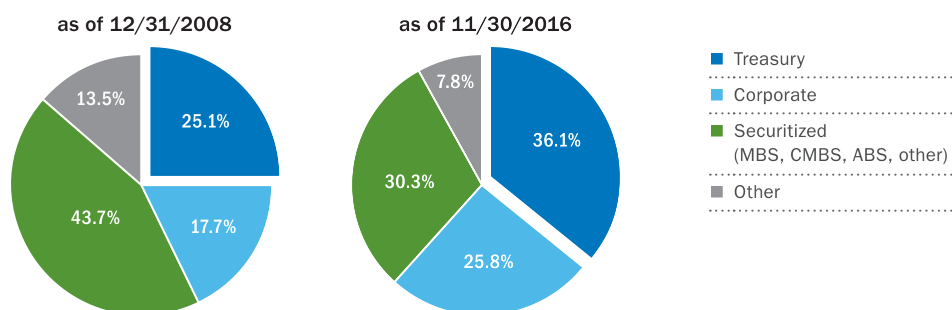
2. Active management may offer advantages over indexing.

Greater flexibility can help mitigate interest-rate sensitivity.
In the past several years, government debt has crowded out non-government 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 36.1%—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, the percentage of securitized assets, including mortgage-backed securities (MBS), commercial mortgage-backed securities (CMBS), asset-backed securities (ABS), and other structured securities, decreased between 2008 and 2016. 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.

Lower rates, combined with these benchmark dynamics, have resulted in steadily growing demand for "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.

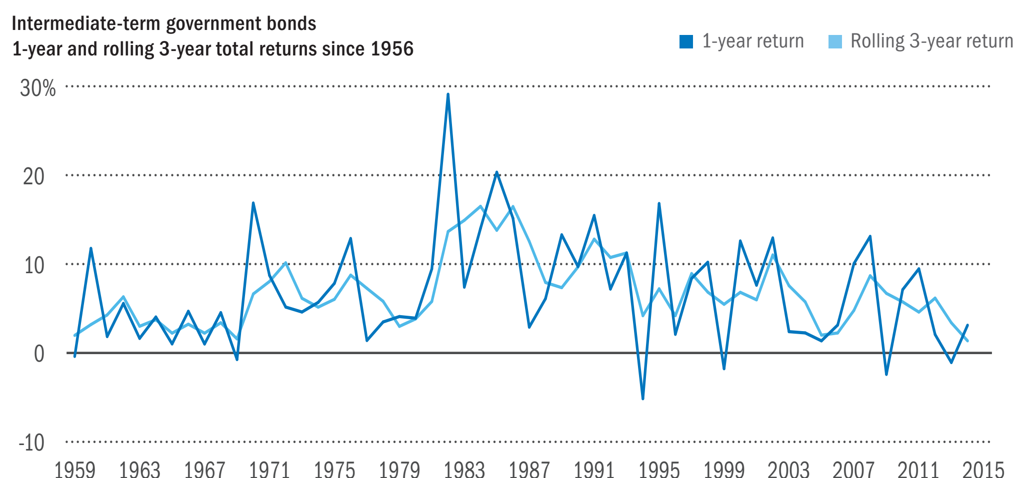
Investors who maintain a longer-term focus and resist the impulse to react to short-term volatility are more likely to benefit from the positive returns of fixed-income assets over time.

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. Bond markets have shown resilience following rate increases



What happens when rates rise sharply? Since 1956, there have been five years—1959, 1969, 1994, 1999, and 2013—in which long-term interest rates* jumped by at least 50 basis points (+0.50%) over the course of the year and intermediate-term government bonds 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 4.28%, 8.04%, 4.20%, 5.98%, and 0.33%, respectively. In fact, as shown in this graph, 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.

* 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.

Data as of 12/31/2015.

Sources: Ibbotson Associates, TIAA Investments.

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.

We believe fixed-income exposure can continue to play a useful role in our clients' portfolios, if managed effectively.

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.

Caveats and potential risks

Our base case scenario calls for overall interest rates to rise steadily and moderately. At the same time, we recognize that the economic and policy landscape in the U.S. and overseas has been altered by events such as Brexit, Donald Trump's unexpected electoral victory, and most recently, voters' rejection of political reform in Italy. How and to what extent these "wild cards" may influence economic performance and the pace and scope of rate increases remains to be seen. Given this unpredictable environment, there are potential risks to the outlook.

Rates could rise more quickly than anticipated if U.S. fiscal spending turns out to be more aggressive 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.

On the other hand, if the market begins to perceive that the recent post-election selloff in Treasuries has gotten ahead of itself given still-modest economic growth, one near-term result could be a less pronounced jump in yields than we have seen thus far. In addition, Treasury rates 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. Lastly, if weaker-than-expected growth outside the U.S. spurs further central bank stimulus while U.S. monetary policy moves in the opposite direction, global appetite for Treasuries could remain a factor in tempering the rise in U.S. yields.

Conclusions

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

- 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.

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