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A Bond-Fund Stress Test

By Allan S. Roth

According to the latest [survey of economists](#) by The Wall Street Journal, the rate on the 10-year Treasury bond will rise from 2.68% today to 3.43% by the end of 2014 and to 3.89% by the end of 2015. Some economists predict rates will be even higher as the Fed tapers its quantitative easing.

This could spell trouble for bonds and bond funds, since bonds' value declines with rising rates. But before you sell, consider both the past accuracy of these economists as well as the financial implications even if they are right.

A 2005 study by professors at North Carolina State University in Raleigh, "[Professional Forecasts of Interest Rates and Exchange Rates](#)," found that same panel of economists predicted bond rates far less accurately than a random coin flip would.

What if the economists are right this time and rates do surge with QE tapering? Will it spell disaster for bond funds? I recently explored those questions [in an article I wrote](#) this month for Financial Planning Magazine. The implications for advisers also apply to individual investors.

At my request, Christopher Philips, a senior analyst in Vanguard's Investment Strategy Group, ran a stress test to see the potential impact of rate increases using the Barclays Aggregate Bond Index which, as of the time of this writing, was yielding 2.3% and had a 5.6-year duration. Vanguard calculated the impact of immediate rate increases and the results are shown in the chart.

Starting Yield	2.3									
Duration	5.6									
Instant										
Annualized return										
Years										
	1	2	3	4	5	6	7	8	9	10
0%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%
1%	-2.8%	0.2%	1.2%	1.7%	2.1%	2.3%	2.4%	2.5%	2.6%	2.7%
2%	-7.9%	-2.0%	0.1%	1.1%	1.7%	2.2%	2.5%	2.7%	2.9%	3.0%
3%	-13.0%	-4.3%	-1.2%	0.4%	1.4%	2.0%	2.5%	2.8%	3.1%	3.3%
4%	-18.1%	-6.7%	-2.5%	-0.4%	0.9%	1.8%	2.4%	2.9%	3.3%	3.6%
5%	-23.2%	-9.2%	-4.0%	-1.3%	0.4%	1.5%	2.3%	2.9%	3.4%	3.8%
Source: Vanguard analysis										

If, for example, rates rise by two percentage points next year (twice the increase predicted by economists), these bond funds would lose an estimated 7.9% in 2014. But for those investors not panicking and selling, total returns turn positive by year three and, by year seven, the total annualized return is actually higher than if rates had not increased. That's because funds using this benchmark have a laddered bond portfolio in which bonds are maturing every month and the proceeds reinvested at the higher rates.

Even a five-percentage-point increase in rates (worse than any historic increase) results in the same total return in seven years and higher total returns by year eight. Admittedly, real inflation-adjusted returns are likely to be worse as higher yields are likely to be partially caused by higher inflation.

Many believe that holding individual bonds eliminates this interest rate risk if held until maturity. This is a complete fallacy I wrote about previously in comparing [bonds versus bond funds](#). In fact, bond funds have the added benefit of reinvesting principal and interest immediately rather than leaving cash in a money-market fund paying 0.01%.

Implications for Investors

One implication is that investors shouldn't assume the consensus forecast of rising rates will be any more right this time than it has been in the past. The impact of QE is unknown, and the market, which usually outsmarts us, understands QE infinity is impossible. Fixed income should always be part of a balanced portfolio.

Another implication is that rising rates actually mean higher nominal returns for investors in the long run. But only investors who stay the course will get those returns. The human tendency to chase performance is just as destructive for bonds as it is for stocks.

Bond investing based on economic forecasts has long been a loser's game. Understanding the short-term and long-term impact of potential rate increases, and framing those impacts, will likely continue to be a

better strategy in the long run.

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