New Frontier

What Happens To Your Portfolio If Interest Rates Rise

Robert Michaud

CIO
New Frontier

Robert Michaud is the co-holder of four U.S. patents in portfolio optimization and asset management and is the Chief Investment Officer at New Frontier. He holds a Masters in Mathematics from Boston University and pursued a PhD in finance from the Anderson School of Management at the University of California at Los Angeles before joining New Frontier. His research interests include risk models, empirical asset pricing, and international finance. He is the co-author of *Efficient Asset Management: A Practical Guide to Stock Portfolio Optimization and Asset Allocation*, (2nd ed. Oxford University Press, 2008) and research articles in refereed journals.

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Interest rates affect your portfolio through all asset classes, but may do so in different ways.

Investors are on edge about rising interest rates today, but sensitivity to interest rates has long been a concern of serious investors (along with all other aspects of portfolio risk). Duration is the standard statistic used to describe the sensitivity of a portfolio to small changes in interest rates. The duration of a bond is the mathematically exact response of price of the bond to the change in interest rates. This can be calculated just as well for a fund of bonds (or even a portfolio of bond funds) as it can for a single bond. However, for bonds with credit risk or other pricing factors (e.g. thereturn series callability of mortgage backed securities or the currency effects of international bonds), the return of the bond will not be solely a function of changes in interest rates. So while the mathematics of bonds is precise, what will happen over time to the price of a portfolio of bonds will only be partially determined by changes in interest rates. It's also important to note that duration is only meant to apply to small changes in interest rates. For example, TLT, a long treasury ETF currently has a duration of 16.57. If its yield rises by 0.01%, the price of the ETF will likely fall by something extremely close to 0.1657%. However, if interest rates rise by 7%, the same calculation would imply a greater than 100% loss for the ETF, which clearly overstates the price change (for larger changes in rates, it's important to consider convexity, or second derivative of the bond's sensitivity to interest rates).

Also, stocks can be examined for sensitivity to interest rates. E.g. reliable dividend payers are clearly competing with bonds for investment dollars and therefore share some of the sensitivity. But this is best described as a statistical sensitivity to a risk factor that needs to be estimated instead of the mathematically precise bond duration (although highly dependent on all else being held constant for non-treasuries).

For a portfolio of many asset classes, it's important to look beyond one characteristic when assessing risk. A portfolio with all bonds exposed solely to credit risk will lack the diversification bonds usually supply to a portfolio and behave like an all equity portfolio. For that reason, we feel that avoiding treasuries is imprudent and contradictory to our mandate to seek return while

minimizing risk of the portfolio as a whole.

That said, it might comfort an investor to understand the extent of interest rate exposure in their portfolio. New Frontier designs optimal risk-targeted portfolios to meet investor objectives so the bond allocation typically shifts to more aggressive asset classes even as the weight to bonds decreases overall. As an example, a conservative portfolio with 80% in bonds with a duration of 5 would have a portfolio duration of 4, while an aggressive 90/10 portfolio with a 10 bond duration would have a portfolio duration of 1. The weighted total portfolio duration of our strategic 60/40 portfolios is 3.2. This means that the risk of a further 1% rise in interest rates would result in a loss of approximately 3.2. But this figure assumes nothing else will change in the portfolio. This is an unlikely scenario. A more probable scenario, along the lines of what the Fed policy makers are governing for, is that interest rates rise as the economy improves. This means that the rise in interest rates will likely be accompanied with a rise in the value of other assets in a well-diversified portfolio.

Much of 2013 was just this scenario—economic indicators were better than expected and the stock market rallied on expectations of future growth. The Fed saw the same news and moved toward the taper. Now the market has certainly priced in much of the expected impact of future tapering, as well as the possibility of a more robust economy putting upward pressure on interest rates. The unanswered question for the future is whether the market has under or over reacted to the news to date. There seems to be no consensus from thoughtful investors other than to pay attention and be well diversified.

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