

Bonds Have Bear Markets Too!



With retirement savings pouring into bonds as the “safe” asset class, it’s important to remember that bonds can have bear markets too. What would happen if there was a sudden spike in interest rates?



When looking back to examine what has happened to various investments in the past, we must be careful about the length of the data set used and the bias it can create. Historical bond returns are a classic example. Using only the last 35 years to analyze bonds and bond returns renders a data set is so full of declining interest rate bias that any conclusions drawn about the future are bound to be askew or worse. The U.S. interest rate increases started in earnest in the late 1960’s with the effects of the Vietnam War (guns and butter pressure on inflation), the massive consumer spending caused by the baby boom (Americans spend more on their children than on anything else), and the 1973-74 OPEC oil embargo which helped drove up energy prices 400% in just two short years. Inflation skyrocketed in the U.S. and the then current Federal Reserve (Fed) Chairman Volker had to impose a form of economic “chemotherapy”...he raised interest rates so high that they stifled any further inflation and, for a time, most economic growth. This economic choke-hold was designed and destined to return our inflation and interest rate environment to “normal”. Yet interest rate normalization has taken the better part of 35 years! The full cycle is over 50 years. Have we, as an industry, succumbed to this rate bias and set ourselves up for an unforeseen bear market that could have massive ramifications?

Today the most referred to bond index, the Barclay’s Aggregate Bond Index (BCAB, formerly Lehman Aggregate Bond Index) did not exist at the beginning of this 50 year cycle. The first iteration of the BCAB was created in 1973 but returns for only a part of the aggregate index, the Government/Corporate sub-index, started in 1976¹. The mortgage backed, Yankee and Aggregate Indices were created in 1986 and back tested to 12/31/75¹. In short, the BCAB has evolved over time and become the “standard” bond benchmark for our industry today. On a total return basis (price movement plus coupon return), since inception the BCAB has only had negative returns in in three calendar years: 1994 (-2.92%), 1999 (-0.82%) and 2013 (-2.02%). Due to these modest declines, many have drawn the conclusion that bonds are “safe” and never lose a lot of money. This, of course, is not true. Yet the BCAB, the financial industry’s most often cited bond index, is too new to tell a complete story. Think about it...our industry’s main comparison for bond returns is completely subject to the declining interest rate bias noted above. For this reason, we will focus on the 10 year U.S. Treasury (10 Yr UST) as our representative bond proxy as it has a much longer dataset that transcends the 50 year bond “super-cycle”.

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US GOVERNMENT BOND 10Y



SOURCE: WWW.TRADINGECONOMICS.COM | U.S. DEPARTMENT OF THE TREASURY

The main reason there were no large total return bond losses in the last 35 years is because the bond's coupons were so high due to the Volker Fed's rate increases that they covered up the declining price movement. Yes, higher coupons bring lower bond duration, but let's use a simplistic example. If a 10 year (in duration) U.S. Treasury lost -10% in a given year while the coupon was 8%, then the yearly total return would have been -2%. But now that the 10 year U.S. Treasury yield is below 2%, that same -10% price decline would bear a -8% total return. That can come as quite a shock to retirees who have poured trillions into bonds to produce income to fund their retirement.

The above chart of the 10 Yr UST bond, which goes back 100 years, draws a completely different picture as to what historical interest rates have been and what a "normal" rate range might look like. The 10 Yr UST has spent more time with its interest rate between 2-5% than it has above 5%. Is this normal? Perhaps.

Once again caution must be invoked. If the 2-5% range of the 10 Yr UST yield from 1915 to ~1965 is to be considered normal, then we need to normalize the data. In 1971 the U.S. came off the gold standard. Pre 1971, our Government's debt was backed by more than a promise to pay...it was backed by gold and silver. This had a stabilizing effect on price/yield and the lack of this stabilizing effect needs to be considered when looking forward². Furthermore, in times of war, it was typical for the U.S. Government to control interest rates. We do not know if the U.S. Government will impose similar controls in the future.

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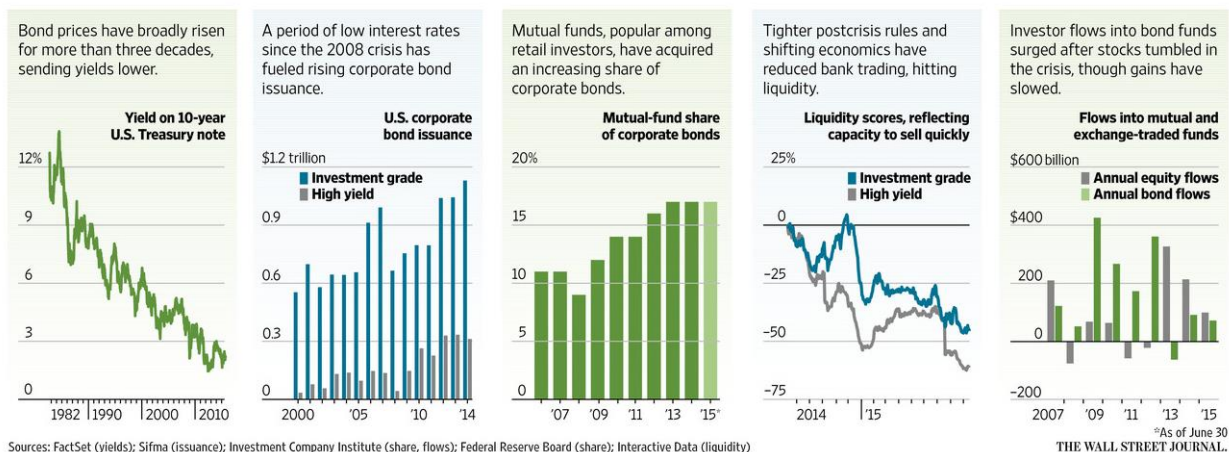
We believe size does matter.

The \$19 trillion of current U.S. Federal debt is much larger than at the end of World War II when our debt was \$251 billion. Yes, as a percent of GDP these amounts are similar at around ~110% of GDP³, but what if there is a sudden surge to sell? Does size matter? It can when people want to sell all at once! For example, let's say a small number of bondholders want to sell, maybe 2%. 2% of \$19 trillion or \$380 billion can have a much greater effect on price than 2% of \$251 billion or only \$5 billion. It all comes down to a simple premise: Is there an incremental buyer for the bonds for sale and at what price? Note we have not included corporate debt or municipal debt in this simple example. At the end of 2014, total U.S. debt outstanding was \$60 trillion⁴. That means if 2% was put out for sale, \$1.2 trillion of selling pressure will hit the U.S. bond market. 5% selling pressure means \$3.75 trillion goes up for sale.

Please see the charts below from the Wall Street Journal. They illustrate other reasons that bond liquidity, due to the size of the bond markets, may create additional risk to bond prices. In short, as rates rise, losses mount and selling pressure increases. As it does, it will likely become harder and harder to find an incremental buyer for the amount of bonds for sale. For brevity's sake, we will not go into the bond derivative market and the possible devastating effects leverage can bring to the bond markets. The 2007-2009 credit and banking crisis has already proven this premise.

Breaking Out

The U.S. bond market has vastly expanded in recent years, creating fresh risks at a time when U.S. rates appear poised to rise for the first time since before the financial crisis.



It has been pointed out by the Wall Street Journal that about 90% of bond returns were derived from the starting interest rate of each bond⁵. With the yields on the 10 Yr UST bond just under 2%, what are reasonable return expectations going forward if interest rates stay range bound? What if interest rates rise for any reason?

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Calculating bond losses involves a simple equation:

The duration of the bond (bond ETF or fund) x interest rate increase = expected loss. A modest rise in interest rates, let's use 2% in a year, will bring a 20% price loss to a U.S. Treasury bond with a 10 Year duration. With the current coupon just under 2%, this would bring a total return of -18%! Is it conceivable that interest rates could rise 2% over 12 months if inflation heats up and/or the Fed raises rates? The last time the Fed raised rates in 2004-2007, they increased the Federal Funds rate by .25% seventeen times. In 2005 alone, they raised short term rates 2%⁶ and these rate increases were reflected, at least in part, across the yield curve. Year end to year end, the 10 Yr UST has had annual yield increases of 1.5% to 2.02% seven times in the last 100 years. If we widen out to 18 months and use non-year end data the frequency increases dramatically. Rate increases and bond losses do happen! In 1994, the 10 Yr UST lost 8.04%, in 1999 it lost 8.25%, in 2013 it lost 9.1% and in 2009 it lost 11.12%.

What about sustained bond losses over longer time periods? Yes, this has happened as well. The years 1955-1959 saw the 10 Yr UST lose money 4 out of 5 years⁶:

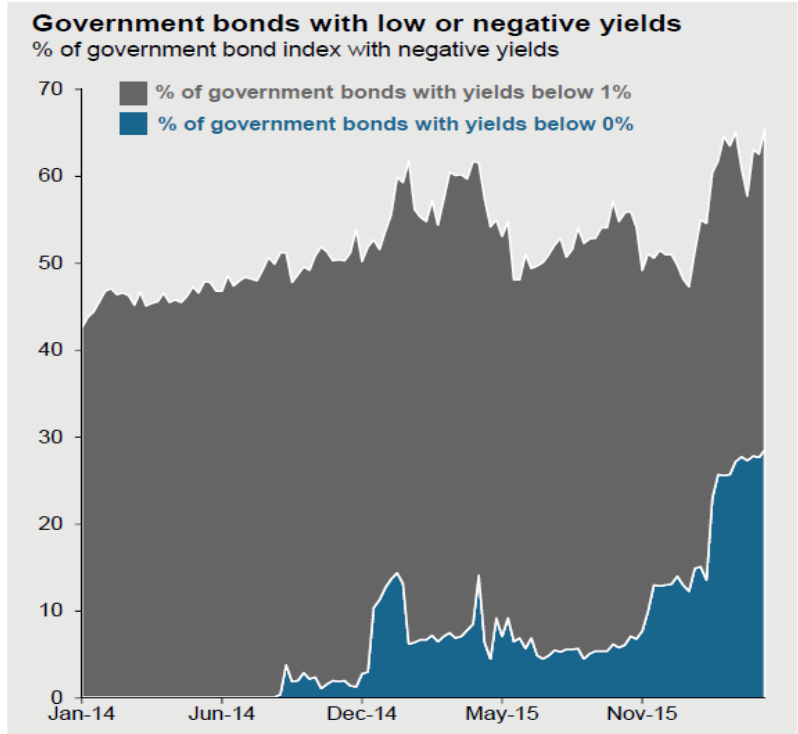
Year	1955	1956	1957	1958	1959
Loss	-1.34%	-2.26%	6.80%	-2.10%	-2.65%

So far this paper has focused on the 10 Yr UST. In addition to the issues noted above, bonds can be subject to credit and default risk, rating downgrades, liquidity risks for certain issuers and reinvestment risk (in lower yielding bonds). High yield or junk bonds often have had the tendency to have return streams more similar to equity than other bonds. International bonds have to account for political/military risks and currency fluctuation. As a general rule, the higher the coupon the greater the risk(s). For example, in 1994 the BCAB had a modest loss yet many bond funds had disproportionately large losses due to credit and other risks⁷. In 2008 credit risk struck again: the BCAB was positive 5.24% yet, according to Morningstar, 65 intermediate term U.S. bond managers lost at least 8% and a dozen lost more than 15%⁷. Investors were not happy!

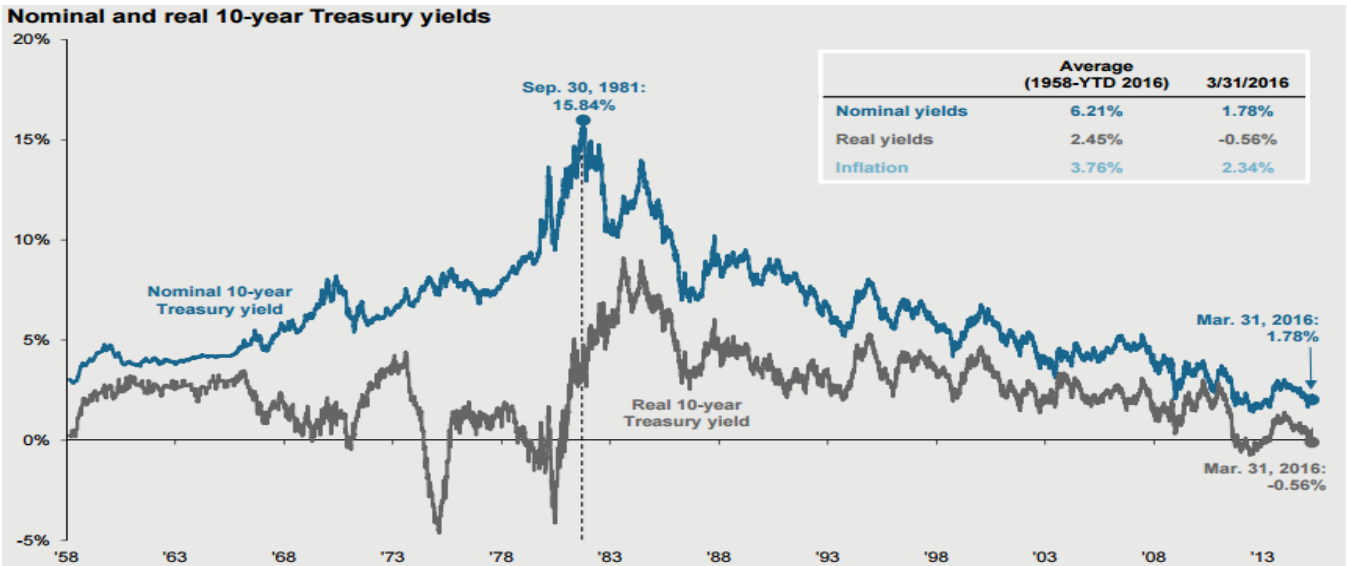
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So why the concern? We all know interest rates are low across the globe. As the chart to the right shows, of all the Government bonds issued and outstanding today, including all maturities, almost two thirds have a yield below 1% and over one quarter have negative yields!

In addition to this global phenomenon, as the chart below illustrates real yields here in the United States are also turning negative. The last time this happened was during the 1970s when the Fed was trying to check inflation and raising rates.



Source: Bloomberg, J.P. Morgan Asset Management, BofA/Merrill Lynch / Guide to the Markets – U.S. Data are as of March 31, 2016



Source: BLS, Federal Reserve, J.P. Morgan Asset Management
 Real 10-Year Treasury yields are calculated as the daily Treasury yield less year-over-year core CPI inflation for that month except for March 2016.
 Guide to the Markets – U.S. Data are as of March 31, 2016



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Complacency and ignorance do not bode well in our industry. Today, we too often read about the “safety” or “relative safety” of bonds and we feel investors have been led to believe that they will not lose a lot of money in bonds...ever. How will you react if you open your statement and see your bond holdings with significantly lower prices? Will baby boomers as a whole, with trillions invested in bonds to fund retirement, panic if they see bond losses? If so, could this create the selling pressure described above which will subsequently drive prices even lower? We shall see.

Furthermore, many Target Date funds (TDFs) use bonds of all types as the receptacle of “safe” monies, in increasing percentages, as workers get closer to retirement. Perhaps this is part of the reason why the three largest 2010 TDFs each lost 21-27% in 2008⁸. Regardless, could even a modest rise in interest rates start a chain reaction of sorts? How will TDFs perform if the assets are locked into increasing bond positions as participants near retirement? Education is needed and needed soon!

It is almost certain that rates will one day rise substantively. We hope the investing public and our industry is ready to deal with the potential fallout.

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Disclosures:

¹ www.Bogleheads.org

² A History of Bond Market Corrections, Ben Carlson, 5/7/15

³ St. Louis Federal Reserve or FRED

⁴ St. Louis Federal Reserve or FRED

⁵ How to Predict the Next Decade's Bond Returns. The Wall Street Journal, March 3, 2014 and Dry Powder, October 15, 2015 by [Michael Batnick](#)

⁶ Federal Reserve Bank of New York

⁷ A brief History of Bond Market Disasters, Madisonave.com, August 16, 2012

⁸ Fidelity Investments, Vanguard, T. Rowe Price 2010 Target Date Fund Fact Sheets

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The **Barclays Capital US Aggregate Bond Index** is a market capitalization-weighted index of investment-grade, fixed-rate debt issues, including government, corporate, asset-backed, and mortgage-backed securities, with maturities of at least one year.

Coupon is the amount of interest due and the date on which payment is to be made. **Coupon rate** is the interest rate on a bond, expressed as a percentage of the bond's face value. Typically, it is expressed on a semi-annual basis. **Yield** is the annual percentage rate of return earned on a security. Yield is a function of a security's purchase price and coupon interest rate. **Mortgage-backed bonds** are bonds or notes backed by mortgages on residential or commercial properties—an investor is purchasing an interest in pools of loans or other financial assets. As the underlying loans are paid off by the borrowers, the investors in MBS receive payments of interest and principal over time. The MBS market is for institutional investors and is not suitable for individual investors. **Treasury bonds** are marketable, fixed-interest U.S. government debt securities with a maturity of more than 10 years. **Duration** is the weighted maturity of a fixed-income investment's cash flows, used in the estimation of the price sensitivity of fixed-income securities for a given change in interest rates.

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