



Under the Hood: What's in *Your* Index? (An Ongoing Series)

5,000 Years of Interest Rates and Your Bond Fund(s), Part II

In Part I, we referenced the financial markets' first "black Friday", as described by Sidney Homer in his classic text, *A History of Interest Rates*. That was in 1745, when 3% English Government Bond yields rose to over 4%. For those less familiar with the price sensitivity of bonds with respect to changes in interest rates, that 1% point change in rates caused a 25% decline in the price of those bonds, from 100 to below 75. That 3% level was as low as rates had gotten during that century in Britain and, according to Mr. Homer's records, the lowest since at least the 7th Century B.C., if covering Classical Greece and the Roman Empire and, actually, in the prior 2,000 years of recorded history. By the end of the 1700s, interest rates in Britain had risen to a range of 4.4% to 5.4%.

Moving forward in time, the average rate on long-dated British government bonds averaged 4.8% in the first decade of the 1800s, declining to 2.47% by the last decade.

The record of the 1900s is more familiar, but there are some who believe that interest rates during the Great Depression had declined to zero as well. Not really. On New Year's Eve, 1939, the 3-month Treasury bill traded at 0.1%. However, the lowest rate for long term Treasuries during the Depression was 1.98%. But consider the circumstances relative to today: by New Year's Eve 1939, GDP was still 11% lower than 10 years earlier, after having contracted by 45% between 1929 and 1933. The unemployment rate for non-farm employees was 24% and there was actual deflation. In a deflationary period, if one is fortunate enough to have liquid financial assets, even uninvested cash 'earns money' in that its purchasing power is constantly increasing. Using the Bureau of Labor Statistics inflation data, during the four years of 1930 to 1934, the average cost of rent or transportation or food declined by 24%. In essence, cash was earning almost 7% per year, and those 2% long-term treasuries were earning a real return of 9%.

In the meantime, Japan has negative interest rates, and Spain, Italy, France, Germany and the Euro Area as a whole have zero policy interest rates. Which means that a significant portion of the world's sovereign debt has negative real interest rates.

Going back to 1745, for a moment, when rates rose from 3% to 4%, the bonds that fell 25% in price were known as consols, which had no maturity date; they were perpetual bonds. The price sensitivity of a bond is greater when it has a longer maturity. Likewise, a low-coupon or zero-coupon bond will be more volatile than a high-coupon bond. Likewise, the starting point matters.

| Britain | New British Government Long-Term Issues |
|-------------------|---|
| 1710* | 8.3% |
| 1721 | 4.0% |
| 1731 | 3.0 – 3.5% |
| 1743* | 3.0% |
| 1755* | 3.0% |
| 1760* | 3.4% |
| 1770 | 3.0% |
| 1780* | 5.7% |
| 1795 | 4.7 – 5.4% |
| 1800 | 4.4% |
| 1800 – 1809, avg. | 4.80% |
| 1810 – 1819 | 4.57% |
| 1820 – 1829 | 3.72% |
| 1830 – 1839 | 3.40% |
| 1840 – 1849 | 3.26% |
| 1850 – 1859 | 3.16% |
| 1860 – 1869 | 3.27% |
| 1870 – 1879 | 3.19% |
| 1880 – 1889 | 2.81% |
| 1890 – 1889 | 2.47% |

*With, or with some, lottery privileges.

Source: Homer, Sidney. *A History of Interest Rates*. New Jersey: Rutgers University Press, 1963. P 156, 196, 197.

For instance, a bond's price change when rates rise from 2% to 3% will be sharper than from 3% to 4%. Taking a real-life example, there is the iShares International Treasury Bond ETF (symbol IGOV). It is comprised of sovereign debt



from Japan, which is the largest weighting, and substantially equal amounts of debt of France, Italy, the U.K., Portugal, Germany, Spain, Australia, Canada, and other developed market nations. It has \$756 million of AUM¹. The average maturity is 9.9 years. So far, so good. Here's the really interesting part: the average yield to maturity of IGOV is only 0.30%. Here's the next most interesting part: the expense ratio, though only 0.35%, exceeds the fund's yield to maturity, so the net expected reward for holding money in this fund is negative. And here's the most important, and perhaps the most interesting part, which we'll form as a question:

What would happen if interest rates rose slightly, so that the yield that investors require for holding 10-year government bonds is 3.5% instead of just 0.3%?

For context, the *3-month* Treasury Bill, in December 2007, before the Credit Crisis fully took hold, was 3% (and it was 4.6% that June), and in February 2011, the 10-year Treasury was 3.6%.

The answer is that someone who holds IGOV shares at that time would lose about 27% of their investment. And that is in an investment grade, developed nation sovereign debt fund.

Those who own a higher-yielding instrument like the iShares iBoxx \$ Investment Grade Corporate Bond Fund (LQD), won't have a happy outcome either. LQD is very popular – it has \$32 billion of AUM. It has a 12.5-year average maturity and a 2.9% yield to maturity. But in addition to the pure interest rate risk, LQD holders have to add the factor of credit spread risk, meaning that the yields on corporate bonds rise more than Treasuries do when rates rise, particularly if there are credit and recession concerns. The way corporate balance sheets have been stretched in recent years, this should not be considered an insignificant risk. We'll pretend that there is no default risk.

Then there are the so-called bond substitutes like utility stocks, REITs and higher-dividend blue-chip stocks (essentially, we're talking 3-4%). If a 10-year sovereign bond fund will lose 27%, what will such income stocks lose? Stocks, like those British consuls in 1745, are perpetual securities: the longest maturity date around. And, just as for the corporate bond fund, that is just the interest rate risk. One might suppose that under the pressure of a higher-rate environment, many companies might suffer earnings declines, as well, which would also portend dividend reductions.

In broad brush strokes, this covers the waterfront. While there are plenty of ways to earn a reasonable yield, the mainstream instruments – ETFs and the large-capitalization stocks and bonds that they require for trading liquidity – cannot be that place. They are priced at a premium reflecting their utility as liquid trading instruments. The beauty of the markets, though, is that when one door closes, another opens – for the tide of money to flow into one particular direction, it must drain from somewhere else. That somewhere else means the securities *not* caught up in the indexation vortex. Those securities are relatively invisible: they are not being evaluated or priced actively; the efficient market has passed them by. These are the idiosyncratic securities, available for individual inspection and purchase that we believe have obviously favorable expected outcomes, not obviously unfavorable outcomes. They are artisanal selections, so to speak, curated, and the once traditional fare of the active manager.

¹ Source: www.ishares.com as of August 26, 2016



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