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How Rising Interest Rates Effect Bond Prices

By Dan Timotic, CFA
Managing Principal

Most people understand the general idea behind bonds and having some exposure to bonds in your portfolio should help reduce volatility if the stock market goes down. Typically, when stocks are down, bonds are up, and vice versa. However, this general relationship doesn't always hold true. There can be times when the stock market is down and bonds are down as well. To better understand how bonds perform, there are 4 basic factors to consider – duration, credit quality, yield curve, inflation.

What is a Bond?
While many people think of bonds as a "safe" investment, the bond market is much more complicated and has many different sectors, structures, issuers, etc. When investors generalize the bond market, it can cause unexpected surprises. Globally, the bond market is over $100 trillion in size and includes government debt, corporate debt, asset-backed securities, commercial mortgage-backed securities, residential mortgage-backed securities, and other structures. Each of these asset classes within the bond market have their own unique risks and requires careful consideration before investing in any of them.

The reason many people consider bonds "safer" than stocks is primarily because they expect to receive their money back at maturity. Barring a default by the issuer, this statement is true. Most investors will receive the par value of the bond at maturity. However, the effects of inflation, higher interest rates and the macroeconomic environment can have a negative or positive impact on the value of bonds prior to maturity. There is an old saying in the bond market, "Nobody wants to pay for liquidity until they need it." If you need to sell a bond when adverse conditions exist in the market, you can expect the bond price to be lower than you think.

Duration & Bond Prices
In its most basic form, duration measures the sensitivity of bond prices to changes in interest rates. The duration of a bond is determined by its time to maturity and coupon. Generally speaking, the longer the maturity, the higher the duration, and the higher the coupon, the lower the duration. The combination between coupon and maturity will determine the sensitivity of the bond to changes in interest rates.

As an example, let's take a bond with a duration of 7 years. Bond prices have an inverse relationship to interest rates. When interest rates rise, bond prices fall. When interest rates fall, bond prices rise. In this example, if interest rates suddenly increase by 1.00%, we would expect the price of this bond to fall by about 7% (interest rate change x duration). If interest rates were to suddenly drop by 1.00%, this bond would rise by about 7%. It is rare to see an immediate shift in the interest rate yield curve, but it's important to know that bonds can experience drastic price changes depending on the duration.

Credit Quality Matters
The credit quality of a bond is determined by the issuer's ability to repay its debt. You can think of it like you do your FICO score. The higher your FICO score, the lower your risk of default. Same with credit ratings. The higher the credit rating of the issuer, the less likely they will be to default. However, as

we've seen in the past, when economic conditions deteriorate, even the higher quality issuers come under pressure. Remember WorldCom? In 1999, their long-term credit rating from Moody's was A3 (pretty high quality). By mid-2002, Moody's had downgraded their debt to Ca (junk). Even the U.S. Government's credit rating was downgraded for the first time in 2011 from AAA to AA+ (not a major downgrade, but a downgrade nonetheless).

Most of the time, upgrades and downgrades occur slowly over time, and the bond market tends to price in the change. However, when economic conditions deteriorate rapidly, the downgrades can have a significant effect on riskier bonds.

What is a Yield Curve?

The yield curve represents the distribution of interest rates across different maturities. Yield curves can be measured by different credit ratings and sectors, but the basic yield curve uses the various interest rates of U.S. Government debt at various maturity points. Most bonds are priced off the government yield curve. Normally, the yield curve is upwardly sloping meaning the longer the maturity, the higher the interest rate. However, prior to a recession, the yield curve can invert causing longer-term interest rates to fall.

Over the past 30 years or so since the early 1980s, interest rates have continued to fall and investors that bought 30-year bonds back then have been rewarded nicely. Today, these same investors that rely on income from bonds are finding it harder and harder to get a reasonable income given our low interest rate environment. Because of this challenge, investors are looking for replacements that may be longer in maturity or lower credit quality. Unfortunately, the risk is that interest rates will increase going forward and bond investors will be negatively affected.

Inflation is Sneaky

Inflation measures the change in price for goods and services. When inflation is rising, the price of goods and services is higher today than it was yesterday. When it's falling (deflation), it means that goods and services are cheaper today than yesterday. Understanding the implication of inflation or deflation is extremely important to bond investors.

The bond market tends to use the 10-year U.S. Treasury bond as a proxy for inflation and growth. If inflation and growth are expected to increase, interest rates tend to move higher. If we expect deflation or slowing growth, interest rates will fall.

The reason inflation has such an impact on bonds is because of its relationship to the purchasing power of the currency. As a bond investor, you buy a bond and receive interest payments on that bond. When inflation increases, you still receive the same interest payment, but the cost of goods and services is higher. Your purchasing power has been reduced by the amount of inflation. When inflation is high, you are eroding your purchasing power each year and will need to find other sources of income to maintain your spending needs.

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