

Fixed Income Strategies for Bond Investors to Reduce Interest Rate Risk

By: Ian McAbeer, CFA

In late 1981, the yield on 1-year treasury bills reached 17% and the yield on 10-year treasury bonds reached 15% - both yields proved to be the highest ever recorded in US history, and marked the beginning of a decline in market interest rates that lasted almost 3 decades. By 2009, 1-year and 10-year treasury yields bottomed at 0.3% and 2.5%, respectively. By any measure, the past 28 years represent the greatest bull market in history for fixed income securities. The magnitude of the decline in interest rates that commenced in 1982 and ended in 2009 may never be repeated in the lifetimes of anyone reading this article.

As we sit here, in early 2010, with bond yields near the lowest levels possible, it begs the question of whether or not the next 10-20 years could witness the worst bear market in bonds we've seen in decades...perhaps an environment reminiscent of the 1970's. Everyone knows that rates are eventually heading higher, perhaps much higher, and interest rate risk for fixed income portfolios is equally high. Similar to an earthquake forecast in California - it's not a question of *if*, it's merely of a question of *when?* And much like a resident of California, any investor who owns fixed income securities needs to be aware of the attendant risk. Fixed income investors need to be mindful of the strategies that may be employed to protect a portfolio against the threat of rising interest rates.

The basic goal for most bond investors in any market environment is to construct a portfolio that satisfies certain characteristics of yield and liquidity, while having no more risk than is necessary. While there are many ways to evaluate the interest rate risk in any particular fixed income portfolio, the single most important metric that all investors must understand is *duration*. Although there are many different ways to measure duration, in its simplest form duration is a single number that measures time, in years, and represents the weighted-average time of receipt of all cash flows from a particular fixed income security. A long-term bond will have a higher duration than a short-term bond, and will therefore be more sensitive to changes in interest rates and have greater interest rate risk. The duration of a portfolio of bonds is simply the weighted-average duration of all its constituent holdings.

There are 4 general factors and related fixed income strategies that portfolio managers and individual investors can control to reduce the duration, and hence interest rate risk, of a bond portfolio:

1. Maturity: stated maturity of the bond
2. Coupon rate: premium or discount to market rates
3. Coupon type: fixed rate or floating rate
4. Embedded optionality

Maturity: Most investors control duration through a simple concept known as *laddering*. Laddering is nothing more than building a portfolio of fixed income securities with varying maturity out to some maximum point in the future, such as 10 years. For example, a \$1 million laddered bond portfolio may have \$100,000 worth of bonds maturing each year for the next 10 years. After one year has passed and the nearest bond has matured, the proceeds are used to repurchase a new 10-year bond, such that the overall portfolio always has 10 bonds with maturities spanning from 1 to 10 years. Assuming average credit quality and coupon rates, such a portfolio might likely have a mathematical duration of 4 years or so. Laddering isn't a fixed income strategy, per se, but is actually a portfolio management technique: investors with laddered bond portfolios buy bonds of all maturities, from short-term to long-term, and simply accept market yields that are available at any given point in time. Nonetheless, the composite duration of the laddered portfolio may be adjusted to suit an investor's beliefs about future bond market yields. For example, by constructing a bond ladder of shorter duration, such as from 1 to 7 years, instead of 1 to 10, investors can reduce the duration of their portfolios, and reduce their interest rate risk accordingly.

Coupon Rate: The second strategy for reducing interest rate risk in a bond portfolio focuses on bonds with high coupon rates. Bonds having coupon rates that are higher than prevailing market yields for the same credit quality are called *premium coupon bonds* - such coupons are at a premium to the otherwise available market yield. Premium coupon bonds have lower interest rate risk because the investor in the bond is receiving higher coupon cash flows, which reduces the duration of the bond. Said another way, if you have two otherwise identical bonds, but one pays a higher coupon rate than the other, this higher coupon bond will have a lower duration, and hence lower interest rate risk.

High yield bonds (which are higher coupon due to their lower credit quality) present an opportunity for investors to increase yield and reduce interest rate risk at the same time. Because high yield bonds have above-market coupon rates and yields to begin with, they are automatically lower in duration than otherwise equivalent-maturity investment grade bonds. Furthermore, owners of high yield bonds are likely to have an added benefit as credit spreads typically contract during an economic recovery, so owning such bonds offers the potential for both higher return and lower interest rate risk. A variation of this strategy might focus on bonds from issuers of economically-sensitive industries, such as financials, transports, natural resources, or other sector that is positioned to benefit from future economic growth.

Coupon Type: The third fixed income strategy for reducing interest rate risk in a bond portfolio focuses on the type of coupon: fixed rate versus floating rate. The entire reason why fixed income securities lose value in a rising interest rate environment is *because* their coupons are "fixed". However, investors in bond markets can also invest in floating rate securities - securities that have their interest payments mathematically linked to a variable market reference rate, such as LIBOR. When short-term rates rise, the payments to investors in the floating rate securities will rise as well, providing levels of income that keep up with increases in market rates. As a result of this interest rate adjustment feature, floating rate securities have very low effective duration and consequently very little interest rate risk. Investors must be careful, however, because most floating rate debt securities are issued by non-investment grade entities, typically with significant total leverage, and thus most floating rate securities tend to have significant credit risk, similar to the high yield bond market.

Optionality: The fourth fixed income strategy for reducing the interest rate risk in a bond portfolio relies upon the existence of embedded options within a bond indenture, and specifically bonds having embedded call options (a structure that is especially common in the municipal bond market). The call option feature of a bond is the most significant characteristic that may reduce interest rate risk because it is the only feature that can actually accelerate the maturity date of a given bond. Callable bonds that have coupon rates that are higher than current market rates and trade at premiums to par value are known as "cushion bonds" - the name being derived from the fact that these bonds are not particularly sensitive to changes in interest rates; they do not appreciate very much when interest rates fall, nor do they depreciate very much when interest rates rise. Thus, these bonds can cushion, or buffer, a fixed income portfolio against the affects of changing interest rates.

In conclusion, for the investor or financial advisor concerned with the damaging consequences of rising interest rates, there are a variety of fixed income strategies that may be employed to construct defensively-positioned bond portfolios having reduced interest rate risk, while still maintaining adequate cash flow characteristics. A portfolio of relatively low maturity, premium coupon, callable bonds, along with floating-rate securities and having issuers of diverse credit quality would likely do well to provide meaningful levels of coupon payments while offering enhanced principle protection in an era of volatile and rising interest rates.

Blackhaw Wealth Management is an independent financial advisor in Austin, Texas. As an independent financial advisor, our firm works with private clients and foundations to develop, implement, and manage investment portfolios.