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ENRICHING INVESTORS

Understanding Bond Interest Rates & Risk

By Robert E. Caplan, MBA, CFA

In bond investing, interest rate risk is often the risk individual Investors either overlook or underestimate. Interest rate risk, simply put, is the risk that market interest rates will change in a way that has a negative impact on a portfolio's value, or the Investor's ability to reinvest portfolio cash flow at an attractive yield. Interest rate risk is primarily determined by the term structure of a bond portfolio. An illustration is useful.

Consider two bond Investors. Neither wants exposure to credit risk so they are buying U.S. Treasury bonds. Investor A wants low interest rate risk in her portfolio, so she buys a 2-year bond paying 0.60% annually. Investor B is not thinking so much about interest rate risk, but is looking to generate income, so he invests in a 10-year bond paying 3.34%.

	Investor A	Investor B
Initial Investment	$10,000	$10,000
Bond Maturity	2 years	10 years
Coupon Rate	0.60%	3.34%
Annual Income	$60.00	$334.00

Clearly, Investor B will enjoy better income, but what happens to the value of the portfolios if, over the next year, market interest rates increase by 1.00% across all maturities?

	Investor A	Investor B
Initial Investment	$10,000	$10,000
Remaining Term	1 year	9 years
Coupon Rate	0.60%	3.34%
Market Rate	1.60%	4.34%
Annual Income	$60.00	$334.00
Market Value	$9,901	$9,315
Gain/(Loss) in Value	($99)	($685)

Neither Investor fared well over the first twelve months of their investment. Including interest, after one year Investor A lost $39 dollars while Investor B lost $351. They will not realize the loss of value unless they sell the bonds, but this change in value is an important component in their investment's total return. So, what happened? As market interest rates increase, today's value of fixed interest payments in the future decreases. Investor B's original investment of $10,000 could now earn him 4.34%, or $434 a year for the next nine years, but since his bond is paying $334 it is valued at less than $10,000. The longer an Investor is entitled to receive below market payments, the more the value of their portfolio will decline as rates rise.

Conversely, as interest rates fall, the effect of interest rate risk is just the opposite; bond values grow benefiting longer-term bonds more than short-term bonds. Decisions about the term structure of a bond portfolio need to be made in the context of the current and expected interest rate environment. When there is an expectation that interest rates are headed higher, sacrificing some current income and keeping your portfolio short may be necessary to protect the value of your fixed income assets. In addition, having bonds mature as rates increase provides an opportunity to reinvest cash flow at increasingly attractive yields.