



## Bond Returns Fluctuate Too

by Glenn E. Atkins, CFA

As interest rates rise, the price on existing bonds must naturally fall to compensate new purchasers of these bonds for the rising current rates. Take for example the current 10 year Treasury bond, which is the 4.75% bond due 5/15/2014. On the day I wrote this article this bond had a yield to maturity (YTM) of around 4.50% and was trading at nearly \$102.00. Bonds actually trade in \$1,000 increments, so it would be \$1,020 per \$1,000, but it's easier to think of the price as \$102.00 per \$100.00. With a YTM lower than the coupon and the price above par (\$100), this bond is said to be trading at a "premium." Bonds priced below \$100, with YTM's greater than the coupon, are said to be at a "discount."

What happens to the price of this bond if current market rates rise from 4.50% to 5.00%? The price must go down to entice new investors to buy it, given the now-relatively lower coupon of 4.75% versus the current market rate of 5.00%. In fact, the price would fall to around \$98.06, or a decline of approximately 3.87%. If rates rise by 100 basis points, or one full percent to 5.50%, the price would fall to around \$94.30, down almost 7.5%. Of course if you already own this Treasury bond, you would experience interim, temporary price declines, but you get your money back at maturity.

Why is the fact that prices must fall true? It's true because if you are a new purchaser, you are indifferent to buying the new 5.00% Treasury at \$100 or the old 4.75% Treasury at \$98.06. Both have a YTM of 5.00%. With the 5.00% Treasury you get your 5.00% coupon until the bond matures in 10 years, then you get your \$100 back. With the 4.75% Treasury you get your 4.75% coupon until the bond matures plus you get back \$1.94 more that you paid for the bond. You paid \$98.06 but you get \$100 at maturity.

Approaching this logic from a slightly different angle, it takes both big and sudden rate moves to create negative total returns on bonds. Over the course of a year on the 4.75% Treasury, if rates move up by 1/2 of one percent the price falls by 3.87% but the bond earns the 4.75% in coupon income,

resulting in a positive total return of .88% (plus a little compounding), roughly the difference between the coupon and the price decline. Even if rates were to rise by a full percentage point right now, you'd be back to even in about a year and a half from the 4.75% coupon alone. In fact, according to Ibbotson Associates (a leading historical market data firm), the average price decline for intermediate-term government bonds during periods of rising interest rates since 1970 has been about -4.3%, still allowing the current, relatively low, coupon of 4.75% to keep bonds in positive territory over the long term.

There are a couple of pieces of good news for bond investors, however. First, as interest rates rise, you get to reinvest the periodic coupon you are receiving from your current bonds at higher rates, thus earning a higher return on the new investments you make. Second, and most important, even if the price of your Treasury goes down prior to maturity, you get one-hundred cents on the dollar back when the bond matures. Although bond mutual funds are sometimes the only option for smaller accounts, bond price declines in mutual funds could theoretically be permanent or at least they could seem permanent because bond mutual funds never actually mature.

***"...bond mutual funds never actually mature."***

Further, as bond managers, we can actively mitigate some of the effects of a rising rate environment in several ways. First, because not all maturities of bonds move in lock-step with each other as rates rise, we can try to be in maturities we think are less sensitive to rate moves relative to other maturities. Second, we can be in shorter maturities altogether when compared to the market when it's appropriate. Third, we can increase our portfolio's exposure to corporate bonds which tend to perform better than Treasuries when rates rise. We tend to like corporate bonds anyway since we do our own credit research in-house. That's what having an "active" bond manager is all about.


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Don't forget too, that having bonds in your portfolio means that you either need or want the income and/or that maybe you're trying to reduce your risk level. Bonds serve both of these goals as part of a diversified portfolio, even in a rising rate environment.

Just like we did with stocks a few years back, we'll manage our way through this too. We'll have well diversified bond portfolios made up of good, solid

companies, less volatility in balanced accounts and higher income to boot. So, don't be alarmed when the prices of your bonds start to go down. These fluctuations have no affect whatsoever on principal payments at maturity. It's all part of the natural fluctuation in the fixed income markets and one that we are well equipped to deal with. I almost hate to admit it, but we are now in our fifth decade of dealing with market movements. 

## Stock Returns in a Rising Interest Rate Environment


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**Table A**

### Federal Funds Rate and Subsequent Stock Returns

<b>1955-2001</b>	<b>3 months</b>	<b>6 months</b>	<b>9 months</b>	<b>12 months</b>
Increases (99)	1.20%	2.90%	5.90%	7.40%
Decreases (99)	5.30%	9.70%	12.40%	16.60%
Benchmark*	3.00%	6.10%	9.10%	12.20%
<b>1970-1979</b>	<b>3 months</b>	<b>6 months</b>	<b>9 months</b>	<b>12 months</b>
Increases (29)	-1.90%	-1.20%	3.70%	4.80%
Decreases (26)	6.50%	11.10%	13.80%	17.70%
Benchmark*	1.90%	4.30%	6.70%	9.30%
<b>1990-2001</b>	<b>3 months</b>	<b>6 months</b>	<b>9 months</b>	<b>12 months</b>
Increases (14)	3.20%	7.10%	8.80%	13.10%
Decreases (25)	4.00%	5.40%	7.40%	10.50%
Benchmark*	3.40%	6.80%	10.40%	14.40%

\*Average of all time periods in selected sample

Return information is taken from Jeremy J. Seigel's "Stocks for the Long Run" third edition 

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