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Rising Rate Bond Strategy

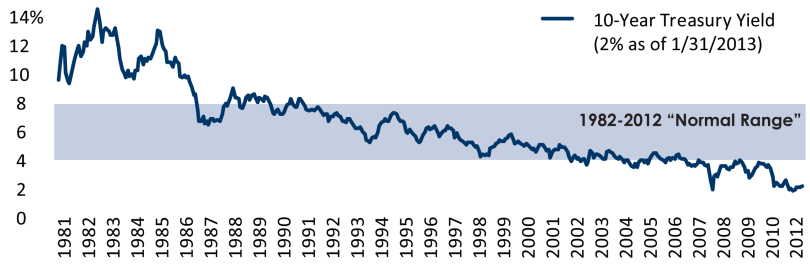
A Bond Ladder May Help Protect Principal

For savers, interest rates have been punishingly low for a long time. Zero percent yields on money funds have forced income investors to look elsewhere for return. Understandably, many have ventured into longer-term bonds in search of yield. With the economy four years beyond the last recession, and central banks still determined to boost growth, investors have begun to anticipate some higher inflation down the road.

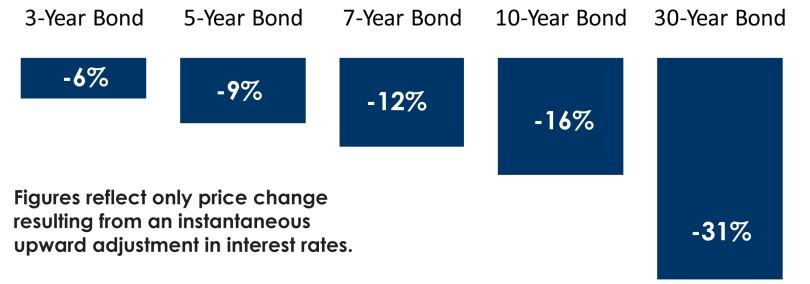
Effect of a Rate Shock

Interest rates are about two percentage points below the historically normal range (first of two charts below). So what would happen to the price of various bonds if interest rates were to rise back toward "normal?" Obviously, shorter-term bonds are less vulnerable to such a shock. A three-year Treasury bill would decline by 6%, a seven-year bond would decline by 12%, and a 30-year bond would drop by 31%. One way to lessen risk of loss in a rising rate environment is to focus on shorter-duration bonds.

Interest Rates at 30-Year Lows (1980-December 2012)



Price Change from a 2% Rise in Interest Rates United States Treasury Bond



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Building a Ladder

One way of mitigating risk in a rising interest rate scenario would be to invest in individual bonds with staggered maturities so that proceeds from maturing bonds are systematically reinvested at the prevailing rate of interest as time passes and bonds come due. This simple strategy is called a "bond ladder." It is a system that allows ownership of securities that delivers higher yields than money market funds and short-term bonds, while still keeping pace with potentially rising interest rates. The average income would be lower than owning all long-term bonds, but the risk would be reduced and flexibility increased.

In a 10-year ladder, bonds are staggered across maturities one to ten years. A simple ten-year ladder would have 10% of the portfolio value invested in one-year bonds, 10% invested in two-year bonds, and so on out to year ten. At the beginning of the second year, when the initial one-year bonds mature, the cash proceeds are reinvested into a new ten-year bond. This process can continue indefinitely and the average portfolio yield will adjust as new bonds are introduced into the portfolio gradually over time.

Stable Principal and Income

While the market value of the ladder will fluctuate with the interest rate environment, the principal value of the portfolio will not be affected (provided bonds are held to maturity and the issuer does not default). The principal value, along with the income stream received, is not changed by fluctuating interest rates. If held to maturity, paper gains and losses are never realized, and the income stream remains predictable.

10-Year Bond Ladder

Process:

1) **Decide on an appropriate level of risk and return.**

   This will influence how long the bond ladder goes out and what kind of bonds you buy for the ladder.

   Shorter bond ladders with better credit quality should be less volatile than longer ladders with lower quality bonds, in general.

2) **Construct the ladder.**

   Purchase appropriate bonds for your needs staggered evenly over time. The diagram above shows a 10-year ladder as an example.

3) **Maintain the ladder.**

   As time passes, bonds will "age down" the ladder. After one year, your first year bond will mature. The proceeds from this bond become the funds used to buy a new 10-year bond.

4) **Repeat.**

Know Your Risk, Reduce Turnover, and Retire From the Forecasting Game

Some bond strategies require making frequent changes to holdings in pursuit of return. In contrast, a laddering strategy makes no attempt to time the bond market. Instead, the portfolio always maintains a relatively fixed average maturity. In the case of a ten-year ladder, the average maturity is approximately 5.5 years. Since average maturity is linked closely to interest rate risk, having a stable average maturity makes it easier to know how much risk is in the portfolio at any point in time. It also means lower turnover, since bonds are intended to be held to maturity.

In exchange for this greater risk clarity and lower turnover, the potential for higher returns from successfully timing turns in the interest rate cycle are foregone. While there have been some successful managers in the past, those investors who can consistently time interest rate changes are the exception rather than the rule. Most sophisticated economists and forecaster have a difficult time anticipating changes in interest rates, as demonstrated by the track record of forecasters contributing to the Federal Reserve of Philadelphia's Quarterly Survey of Professional Forecasters (see below).

Instead of basing an investment program on such forecasts, laddering offers a simple way of investing in bonds across a variety of interest rate cycles.

Six-Month Interest Rate Forecasts Made By Professional Forecasters
Forecast Direction Compared With Actual Outcome

Date	Forecast	Actual	Outcome	Date	Forecast	Actual	Outcome	Date	Forecast	Actual	Outcome	Date	Forecast	Actual	Outcome
1992 Q1	▲	▼	Wrong	1997 Q1	▼	▼	Right	2002 Q1	▼	▼	Right	2007 Q1	▲	▼	Wrong
1992 Q2	▲	▼	Wrong	1997 Q2	▲	▼	Wrong	2002 Q2	▲	▼	Wrong	2007 Q2	▼	▼	Right
1992 Q3	▲	▼	Wrong	1997 Q3	▲	▼	Wrong	2002 Q3	▲	▲	Right	2007 Q3	▲	▼	Wrong
1992 Q4	▲	▼	Wrong	1997 Q4	▲	▼	Wrong	2002 Q4	▲	▼	Wrong	2007 Q4	▲	▼	Wrong
1993 Q1	▲	▼	Wrong	1998 Q1	▲	▼	Wrong	2003 Q1	▲	▲	Right	2008 Q1	▲	▲	Right
1993 Q2	▲	▲	Right	1998 Q2	▲	▼	Wrong	2003 Q2	▲	▲	Right	2008 Q2	▲	▼	Wrong
1993 Q3	▲	▲	Right	1998 Q3	▲	▲	Right	2003 Q3	▲	▼	Wrong	2008 Q3	▲	▼	Wrong
1993 Q4	▼	▲	Wrong	1998 Q4	▲	▲	Right	2003 Q4	▲	▲	Right	2008 Q4	▲	▲	Right
1994 Q1	▼	▲	Wrong	1999 Q1	▼	▲	Wrong	2004 Q1	▲	▲	Right	2009 Q1	▲	▲	Right
1994 Q2	▼	▲	Wrong	1999 Q2	▼	▲	Wrong	2004 Q2	▲	▼	Wrong	2009 Q2	▲	▲	Right
1994 Q3	▼	▼	Right	1999 Q3	▼	▲	Wrong	2004 Q3	▲	▲	Right	2009 Q3	▲	▲	Right
1994 Q4	▼	▼	Right	1999 Q4	▼	▼	Right	2004 Q4	▲	▼	Wrong	2009 Q4	▲	▼	Wrong
1995 Q1	▲	▼	Wrong	2000 Q1	▲	▼	Wrong	2005 Q1	▲	▼	Wrong	2010 Q1	▲	▼	Wrong
1995 Q2	▲	▼	Wrong	2000 Q2	▲	▼	Wrong	2005 Q2	▲	▲	Right	2010 Q2	▲	▲	Right
1995 Q3	▲	▲	Right	2000 Q3	▲	▼	Wrong	2005 Q3	▲	▲	Right	2010 Q3	▲	▲	Right
1995 Q4	▲	▲	Right	2000 Q4	▲	▲	Right	2005 Q4	▲	▲	Right	2010 Q4	▲	▼	Wrong
1996 Q1	▼	▲	Wrong	2001 Q1	▲	▼	Wrong	2006 Q1	▲	▼	Wrong	2011 Q1	▲	▼	Wrong
1996 Q2	▼	▼	Right	2001 Q2	▼	▼	Right	2006 Q2	▲	▼	Wrong	2011 Q2	▲	▼	Wrong
1996 Q3	▼	▲	Wrong	2001 Q3	▲	▲	Right	2006 Q3	▲	▲	Right	2011 Q3	▲	▲	Right
1996 Q4	▲	▲	Right	2001 Q4	▼	▼	Right	2006 Q4	▲	▲	Right	2011 Q4	▲	▼	Wrong
												2012 Q1	▲	▼	Wrong
												2012 Q2	▲	▲	Right

Data Source: Philadelphia Federal Reserve Survey of Professional Forecasters

Options for Higher Yield

Of course a ladder need not be constructed out of Treasury bonds. Corporate bonds, municipal bonds, foreign bonds each offer differing levels of after-tax return above Treasuries. They also carry different levels of default risk. While corporate bonds have higher risk of default than the U.S. government, investment grade bonds almost always offer higher yields than U.S. Treasuries. Long-term AA rated investment grade bonds have generally yielded about 1.5% more than U.S. Treasuries over the past 30 years.

Conclusion

Although we can't know for sure how the future will play out for the economy or fixed income investors, we do know that today's yields are far below historic norms. Coping with near-zero interest rates in money funds or below inflation yields in Treasury bonds is increasingly difficult for investors who may be losing value in real terms by sitting in money funds, or taking on sizable risks in pursuit of yield.

One relatively conservative way of attaining a higher yield than a money fund with less interest rate risk than owning a portfolio of higher risk bonds is to stagger maturities over a known horizon via a "bond ladder."

This is a simple and straightforward strategy that is designed to:

- Generate a consistent stream of income;
- Lower risk compared to fixed investment in long-dated bonds;
- Reduce turnover;
- Help manage risk; and
- Adjust to a changing interest rate environment over time