



STRATEGIES FOR FINDING VALUE IN TODAY'S MARKET

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In times of change, it is very important that finance directors and treasurers consider whether their current investment approaches are likely to be productive going forward. Now is such a time: the interest rate environment is changing, with rates having risen to two-year highs. A continuing rise in interest rates will have some negative effects on portfolios—the market value of existing securities will decrease—but it will create opportunities for portfolio improvements—allowing new money to be invested at higher yields.

What investment strategies, then, can investors use to take advantage of this opportunity? In a changing rate environment, strategies that seek to “find value” are likely to be successful. But what does it mean to find value? Rather than selecting investments simply according to yield, a value-minded investor seeks to determine the best balance between risk and return from the available investment options. For example, as of May 11, 2003, a two-year U.S. Treasury was yielding about 2.59 percent while a five-year U.S. Treasury was yielding 3.91 percent. Though the longer-term security clearly offers the higher yield, it may not represent the best value due to the underlying risk characteristics. This article focuses on two strategies that address the balance between yield and interest rate risk: yield curve analysis and duration management.

Current Economic Conditions

After remaining near 45-year lows for 2003 and for the first months of 2004, interest rates have moved sharply higher on signs of a growing economy. U.S. Gross Domestic Product (GDP) grew at a rate of 4.1 percent for the fourth quarter of 2003 and 4.2 percent for the first quarter of 2004. Employment figures, which had been lagging for most of the recovery, are showing signs of improvement. Both the March and April employment reports came in well above expectations. This has raised expectations that the Federal Reserve might soon start raising the overnight federal funds rate, which has been at 1 percent since June 25, 2003. While the Federal Reserve left rates unchanged at its

April meeting, in its May 4, 2004 release, the committee removed the statement that it could be “patient” in raising the federal funds rate. On expectations that this was an indication that the Federal Reserve will soon be increasing rates, intermediate- to longer-term interest rates have risen sharply. The two-year U.S. Treasury yield on May 11, 2004 was at 2.59 percent, up from 1.46 percent at the end of March.

While it is important to consider current and expected market conditions in managing a portfolio, the starting point for any investment decision always should be a thoroughly and carefully conceived investment plan. Safety, liquidity, and yield (in that order) should be the primary objectives of the public funds investor. In addition, each investor must take into consideration his or her agency's particular needs, preferences, and constraints.

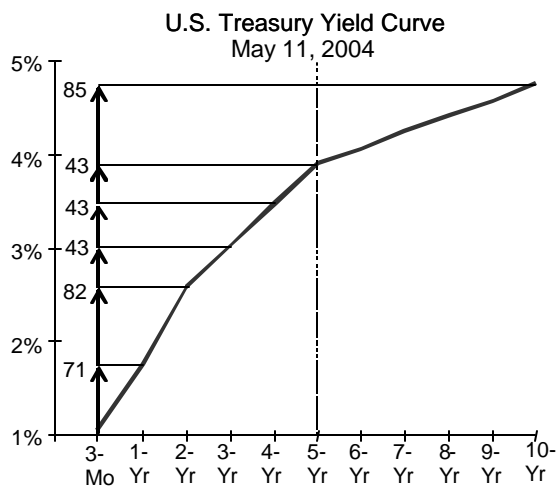
Yield Curve Analysis

A fundamental principle of fixed-income investments is the inverse relationship between yield and price. When interest rates rise, market values fall. Likewise, when interest rates fall, market values increase. Duration is a measure of a security's or portfolio's interest rate sensitivity, or risk: The magnitude of the interest rate risk increases with the investment's duration. For example, if interest rates were to increase 1 percent instantly, an investment with a duration of one year would lose approximately 1 percent of its market value, and an investment with a duration of five years would lose approximately 5 percent of its market value. In a normal, upwardly sloping yield curve environment, the investor is compensated for the additional interest rate risk of the longer-term security by receiving additional yield.

When selecting among securities with different maturities, an investor needs to evaluate the trade-off between the security's yield and its interest rate risk. This trade-off between risk and return is not linear, but will vary depending on the shape of the yield curve. This can be seen in Figure 1, which illustrates the yield curve on May 11, 2004. By increasing the term of an investment from one year to two years, an investor picks up an additional 82 basis points (0.82 percent) in yield. However, by extending the term of the investment for an additional year—from two years to three years—the investor picks up only an additional 43 basis points (0.43 percent) in yield

despite taking on a similar increase in interest rate risk. From this standpoint, the two-year investment offers more return relative to its interest rate risk. Rather than simply selecting the investment with the highest yield, the investor should look at the yield curve to determine which investment offers the best relative value consistent with his or her overall investment objectives.

Figure 1



Source: Bloomberg

The determination of relative value will vary depending upon expectations of future interest rates. In the current interest rate environment with rising interest rates, the investor may give more importance to minimizing interest rate risk and select a shorter maturity than might otherwise be chosen. Conversely, if the investor expects interest rates to fall, they will discount the interest rate risk and choose a longer-term investment. It is not, however, enough to answer the question “Will market rates rise or fall?” to make the investment decision. Two additional questions need to be considered: “How much will market rates change?” and “When will market rates change?”

With a steep yield curve comes opportunity cost that must be factored into the analysis of an investment. By performing a “break-even” analysis, you can effectively incorporate all three questions into your decision-making process.¹ Let’s apply these principles in considering a typical investment choice: should you invest for 12 months at a 2 percent rate, or keep funds shorter in a six-month investment at 1.50 percent? If you believe rates are going to rise, you might consider keeping investments short and therefore favor the six-month investment at 1.50 percent. By performing the break-even analysis, however, you can better gauge how much market rates must change in six months to enable you to equal the 2 percent yield available for the full term. In this case, after a six-month investment matures, you will need to earn at least 2.48 percent for the remaining six months to match the earnings you would have achieved by selecting the 12-month investment. So, if you expect six-month

rates (i.e., the interest rate six months from now) to exceed 2.48 percent, then the six-month investment is appropriate. Conversely, if you believe 2.48 percent will be difficult to obtain, then the 12-month investment should be selected now.

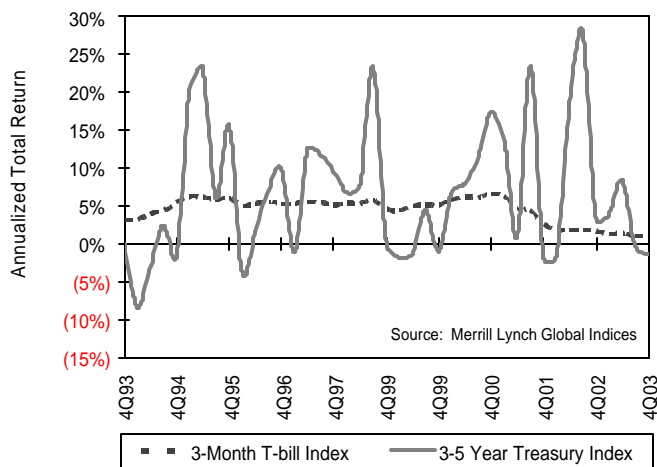
The yield curve analysis focuses on determining the best relative value of an individual investment. However, each investment decision impacts the portfolio as a whole. The next step is to evaluate investment decisions from the perspective of the overall portfolio through duration management.

Duration Management

Historically, a portfolio’s duration will have the greatest impact on a portfolio’s performance over time. The longer a portfolio’s duration, the greater its expected return. For example, over the past ten years the Merrill Lynch 3-5 Year U.S. Treasury Index with a duration of 3.8 years had an annualized return of 6.58 percent compared to only 4.43 percent for the Merrill Lynch 3-month U.S. Treasury Bill Index with a duration of 0.16 years. While longer duration portfolios generate higher expected returns, they also have a higher exposure to interest rate risk, and consequently much greater volatility. Figure 2 compares the quarter-by-quarter total returns (i.e., income plus or minus any market value changes) of the Merrill Lynch 3-5 Year U.S. Treasury Index with the Merrill Lynch 3-month U.S. Treasury Bill Index over the past ten years.

Figure 2

Comparison of Annualized Quarterly Returns for Selected Benchmarks 12/31/93 to 12/31/03



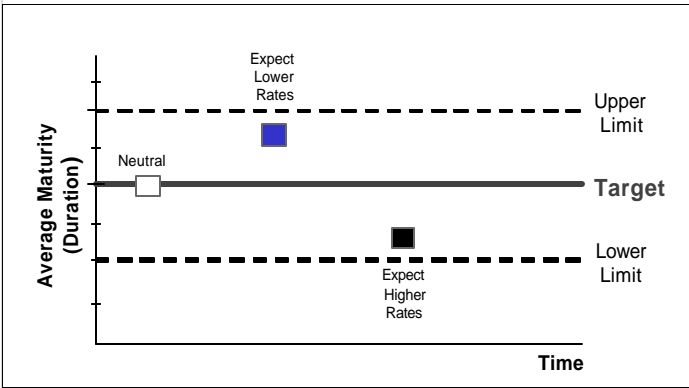
Source: Merrill Lynch Global Indices

A target duration should be selected based on what duration provides the best overall balance between risk and return consistent with an agency’s cash flow requirements and investment preferences. Using the target duration as a starting point, a portfolio’s return can be enhanced and risks reduced by how the portfolio’s duration is managed relative to the interest rate environment. For example, in the current environment with ris-

¹“Break-even” analysis is a method of analyzing investments to determine under what conditions the returns of different securities would be equal. “Gap analysis” is one form of break-even analysis, which compares an investment rate over one term to rates over two consecutive terms that equal in total the single term.

ing interest rates, shortening the portfolio's duration relative to the target duration can reduce a portfolio's interest rate risk and market value depreciation. Conversely, in a falling interest rate environment an investor can lock in rates and capture additional market value appreciation by extending the portfolio's duration relative to the target duration. Figure 3 illustrates this concept, showing how a portfolio's average duration may change over the course of time as interest rate expectations change.

Figure 3



To achieve the best long-term performance, the objective is to maintain good investment discipline and make only small adjustments within a preset duration band of perhaps 20 percent plus or minus from the target duration. For example, if interest rates were expected to rise, shortening the portfolio's duration to 90 percent of the target duration would represent a modest reduction of the portfolio's interest rate risk while providing some flexibility to extend maturities after yields rise, enabling the agency to lock in higher rates. If the market does not

move as expected and rates actually decline further, the agency will then have the flexibility to sell securities at a gain and shorten the portfolio to 85 percent of the target. However, shortening the portfolio's duration to 50 percent of the target duration while further reducing a portfolio's interest rate risk would represent a much larger bet that interest rates will rise. It also would reduce the portfolio's return significantly if interest rates remained stable or fell.

Summary

While risk cannot be eliminated completely from the investment process, its effects can be minimized. To do this, an investor should evaluate each investment choice by determining whether it represents a favorable balance between risk and return, rather than simply selecting investments based on the highest yield. It also is important for an investor to make investment decisions that are consistent with the agency's long-term investment plan. An individual security could offer good relative value, but still not represent a good investment for the portfolio if it raises specific risks such as credit risk or reinvestment risk to an unacceptable level within the portfolio.

While public fund investors should take into consideration current and expected interest rates when making investment decisions, they should keep in mind that there is no way to predict interest rates with any degree of certainty. The best approach to achieving long-term investment objectives is to maintain good investment discipline. By sticking with a well-thought-out investment plan throughout the interest rate cycle, public fund investors are more likely to achieve their long-term investment objectives regardless of changes in interest rates.

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