Analyst Spotlight

The Yield Curve and Equity Markets

What can the yield curve tell us about future equity returns?

The past six months have seen spreads, a measure of the difference in yield between two securities, contract from historically wide levels across the fixed income market. Whether it is high yield, investment grade, LIBOR – spreads have been tightening nearly everywhere one looks. Recently, however, one measure of spread reached the widest levels of the past twenty years: the Treasury yield curve.

When measuring the “spread” of the Treasury yield curve, one compares the yield on longer dated Treasury securities with shorter-term Treasury securities. (In this article we will focus on the difference between the 10 Year Treasury and the 2 Year Treasury.) This “spread” tells us about the slope of the Treasury yield curve. When the 10 Year is yielding more than the 2 Year, the yield curve is described as positively sloped, or steep. However, when they are equal, the yield curve is flat, and when the 10 Year is yielding less than the 2 Year, the yield curve will be inverted. These terms are the conventional jargon used to describe the shape of the yield curve.

Below is a graph depicting the various shapes of the Treasury yield curve:

The shape of the yield curve is a widely accepted leading indicator of the economy. A steep yield curve is viewed as a positive for the economy; financial institutions are encouraged to lend, as they can borrow at a low
short-term cost and then lend that money at a higher level, capturing the spread. This increased lending, and hence investment, help to facilitate economic growth.

On June 4, 2009 the difference between the 10 Year and the 2 Year was 2.76, resulting in the steepest yield curve in the past twenty years. While this is a positive indicator for the economy, what, if anything, can the yield curve indicate about future performance of the stock market?

The graph below, which plots the slope of the yield curve and the S&P 500 over the past ten years (ending 6/30/09), is a good starting place in our search for an answer to this question. The graph suggests that there is a negative relationship between the slope of the yield curve and the S&P 500; in fact, the two have a correlation of -0.8 over this timeframe.

Over the past decade there has been an inverse relationship between the yield curve and the stock market. But can the level of spread give us an indication of future returns of the stock market? One way to answer this question is to separate the data into quintiles based on the level of the slope and examine future returns. As seen in the chart below, on average, equities had the strongest performance over each timeframe following periods when the yield curve was at its steepest. Over the three-year timeframe, we see a pattern of descending average returns as the slope of the yield curve decreases. This demonstrates that higher returns tended to follow periods with steeper yield curves.

I have also included a simple breakout of times when the yield curve was inverted versus times when it was positively sloped. This demonstrates the market tended to perform poorly following times when the yield curve was inverted, which is an observation we will return to again.
One aspect that we have not considered yet is the rate of change of the slope of the yield curve. Is the yield curve becoming more steep, or steepening? Or is it becoming less steep, or flattening? Here we are looking to describe how the shape of the yield curve is changing. Below is a look at comparing times when the yield curve was steepening versus when it was flattening. Over each timeframe, equities outperformed following periods of yield curve flattening.

So far, the data presented suggests that equities outperform following periods of yield curve flattening, and underperform when the yield curve is inverted. We can take this a step further and combine both the shape of the yield curve and the rate of change of the slope of the yield curve, which would answer a question like: ‘does the market outperform when a positively sloped yield curve is flattening?’ Below is a chart showing equity returns following the various combinations of yield curve shape and rate of change. From this analysis, it appears that the effects of an inverted yield curve were more influential compared to those of a flattening or steepening yield curve.

After running through a number of scenarios and analysis, what does today's historically steep yield curve indicate for the stock market?

- First, we observe that the yield curve is positively sloped. This is a positive as we have shown that the market tends to perform well following periods with a positively sloped yield curve (and negatively following an inverted yield curve).
- Second, that the slope of the yield curve is at an extremely steep level is a positive for the market. Over
the past ten years, the level of steepness has been indicative of future equity returns. Strong stock market returns have tended to follow periods of maximum steepness.

• Third, the yield curve is coming off of a period of yield curve steepening. This has been a negative signal for the market, as it tended to underperform following periods of curve steepening.

While we should keep in mind that there is no guarantee that the past will repeat itself and that relationships between factors can change over time, the yield curve appears to be indicating strong future returns from the stock market.

-- Jeff DeMaso, Research Analyst