

## The Market's Expecting

It's no accident God placed our eyes on the front of our body: We have to look forward. Financial theory always makes it sound so simple: Stocks prices are the discounted stream of expected dividends, nominal interest rates are real rates plus the expected rate of inflation, currency rate changes are a function of the expected divergence between two different rates of inflation, etc. Knowing the obvious is not the same as putting it to good use. Let's see what we can do in that regard.

We've been hearing for weeks how the market is expecting the Federal Open Market Committee to raise rates by at least 25 basis points at its mid-May meeting. Some say 50 basis points. Others rejoin the market has this rate hike priced in already. Since our society is intolerant of shoot-from-the-hip financial pundits, from whence do these various scribblers and talking heads obtain their wisdom?

Expectations are embedded within the forward curve of interest rate instruments, both cash and futures. Forward rates are interest rates we can lock in now for a period starting at some time in the future. Why would anyone want to do this? Let's say you are working on a construction project in which you will have to finance the purchase of materials to be delivered to Phase II one year from now. Phase II will last for one year. It would be foolish to borrow the money today for use a year from now, and it would be risky to gamble that rates will not be higher in another year.

This is a classic forward rate problem: A borrower wishes to lock in a one-year rate starting one year from today. The borrower effectively can achieve this by borrowing for the two-year horizon, and lending the money back to the market for the first year. Using data from the close of business on May 10, our borrower can borrow for two years at 7.516% and lend for one year at 7.344%. His locked-in forward rate from Year 1 to Year 2 will be:

$$ForwardRate_{1,2} = \frac{(1+.07516)^2}{1+.07344} - 1$$

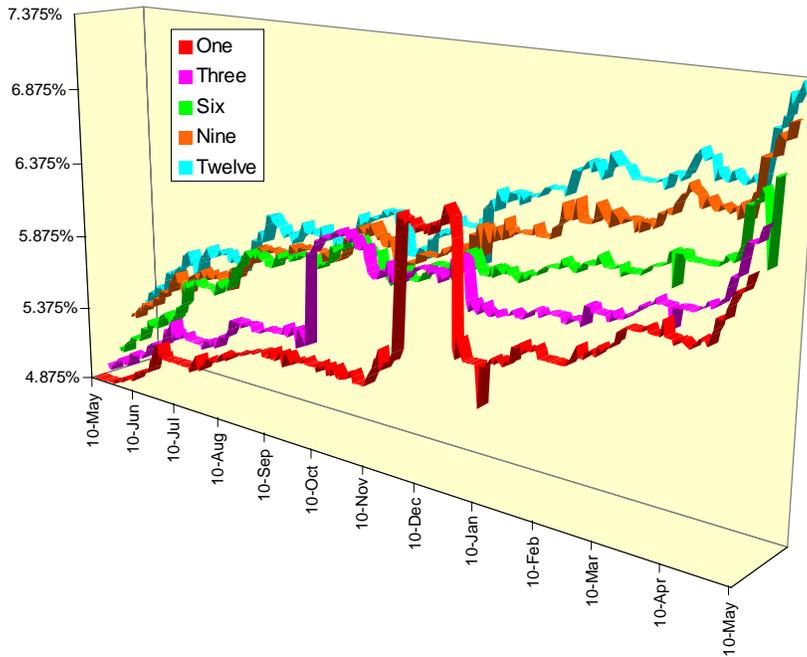
This rate is 7.688%, which is higher than the rate at our two-year horizon. This situation always applies to a positively-sloping yield curve, one in which rates rise as a function of time; the opposite holds for a negatively-sloping or inverted yield curve. The premium our borrower is willing to pay, 7.688% - 7.516%, or 17.2 basis points, is insurance against even higher borrowing costs in the future.

### Divining The Fed

A wise man once said, "The Fed only has one tool, and they keep stepping on it." The august body, which operates at the obfuscation level of the Oracle at Delphi and releases its decisions to the world like the College of Cardinals without the puff of white smoke, can control the level of free reserves in the banking system. This affects the fed funds rate, the rate at which banks borrow and lend to each other. The Fed, like Zeus, has a few other thunderbolts like the discount rate or margin requirements to hurl, but their day-to-day operations are designed to affect the fed funds rate, and that's it. The efficacy of this instrument for controlling various aspects of financial markets will be the topic for other days.

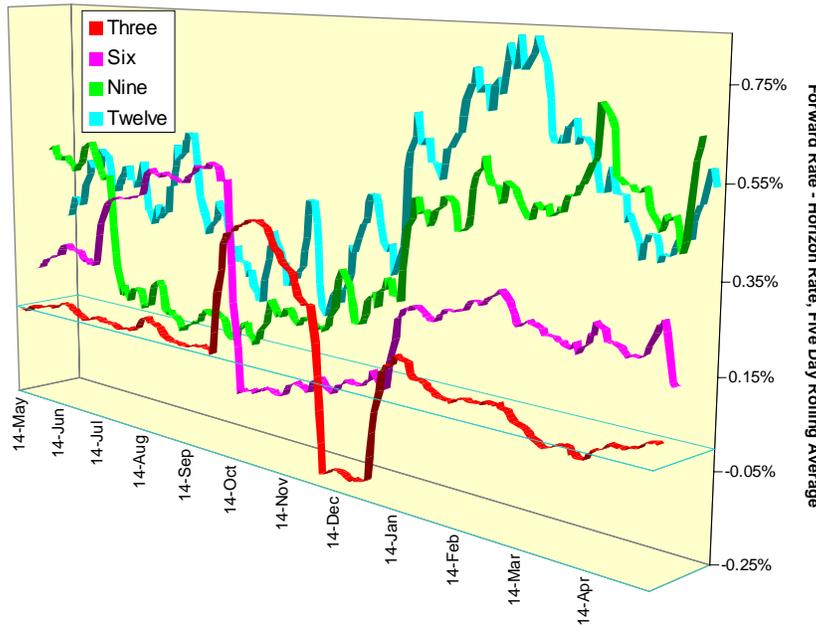
It's not a state secret that the Fed has been driving the funds rate higher over the past year. The first rate hike came at the end of June 1999. The chart below of fed funds rates at 1, 3, 6, 9, and 12-month horizons depicts this readily, along with a few other artifacts such as the sharp drop in the one-month funds rate during December 1999 in anticipation of the Y2K bug.

### Fed Funds March Higher



This still does not display the market's collective judgment on where interest rates will be in the future relative to where they are today. We need to calculate the forward rate structure from the funds data and subtract the horizon rate therefrom. This spread, like the one we calculated above, is the price of insurance against even higher rates.

### How Much Higher Than Today?



The market appears comfortable with where 3-month funds are trading, and is anticipating only a 15 basis point increase in 6-month funds starting six months from today. The longer-dated funds, those trading for 9- and 12-month horizons, are building rate increases of more than 50 basis points.

These expectations are unsettling: With no flattening of the yield curve, the market is expecting one-year paper to trade near 8% in the first quarter of 2001; the corresponding number for 3-month paper would be 7.50%. Should the yield curve flatten or invert at these horizons, the numbers will be even higher.

If there is any good news in all of this, it's the self-defeating nature of interest rate forecasts. These numbers will change economic activity, credit demands, inflationary expectations, equity prices, and even the political equation in an election year. In this scenario, we already have priced in the worst outcome. This is the cheeriest conclusion, but another wise man once said, "Never trade by hope."