

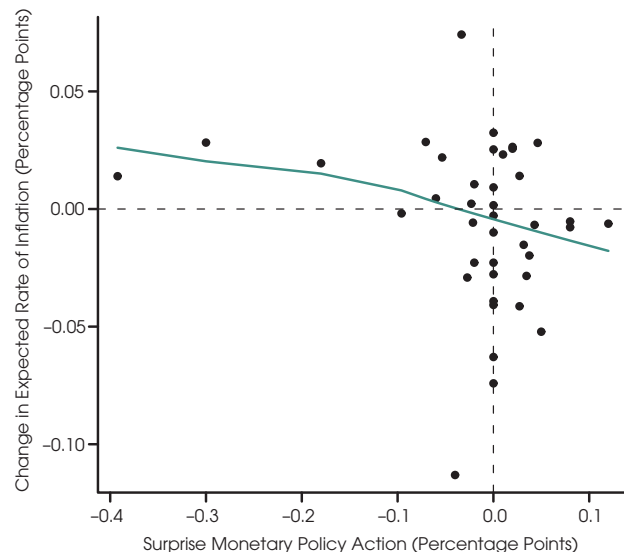
Does the TIPS Spread Overshoot?

When making monetary policy decisions, the Federal Reserve looks to financial markets for information about the state of the economy and their expectations of monetary policy actions. For instance, the difference in yields between nominal and inflation-indexed Treasury securities—the TIPS spread—tells the Federal Reserve about the average rate of CPI-U inflation the markets expect for the time to maturity of these securities. (CPI-U is the consumer price index for all urban consumers.) Similarly, the federal funds futures market offers the Federal Reserve a reading of the markets' expectations about the path of the federal funds rate over the next few months. Clearly, through communication, the Federal Reserve tries to offer the markets some guidance about its intentions. Yet, decisions on monetary policy actions are not finalized before the Federal Open Market Committee (FOMC) actually meets. It is thus almost inevitable that, on occasion, the Federal Reserve will surprise the markets.

It is interesting to know how the TIPS spread—the markets' gauge of the expected rate of inflation—responds to surprises in monetary policy actions and whether these responses are sensible in magnitude. The chart plots, for the period January 1999 through September 2003, surprises in monetary policy actions against changes in the TIPS spread. Surprises in monetary policy actions—that is, in the federal funds rate target—are measured by the price change of near-expiration federal funds futures contracts on days of scheduled FOMC meetings and on days of unscheduled, intermeeting monetary policy actions. The regression line in the chart, which was generated using a technique that is robust to outliers, is downward sloping. This suggests that monetary policy actions influence market participants as follows: tighter-(easier)-than-expected actions lead market participants to expect a lower (higher) average rate of inflation over the next 10 years, as reflected in the TIPS spread. (The author confirmed the statistical significance of this finding in a more comprehensive regression approach and for alternative measures of the TIPS spread.)

Are changes in inflation expectations after monetary policy surprises of similar size as actual changes in the rate of inflation? To answer this question we compare updates of the rate of expected inflation with updates of the actual rate of inflation. For every month during the period January 1999 through September 2003, we measure the logarithmic change in the average rate of inflation over the previous 10 years and the logarithmic change in the constant-maturity 10-year TIPS spread. Changes in the TIPS spread—and thus measured inflation expectations—are well aligned with actual changes in the rate of inflation when updates of the markets' forecast of the future average rate of inflation and updates of the past average rate of inflation are of similar size. In fact, we find that the sum of the absolute values of logarithmic changes of the expected rate of inflation is 7.4 times the sum of actual logarithmic changes in the 10-year average rate of inflation. It seems then that inflation expectations, at least as judged by the yield spread between nominal and inflation-indexed Treasury securities, tend to overshoot.

—Frank A. Schmid



NOTE: The surprise component of the FOMC decision on the federal funds target rate is measured by the price change in the respective month's federal funds futures contract, adjusted for the number of calendar days remaining for the month. If the FOMC policy action happened within the last seven days of the month, the price change of next month's federal funds futures contract was used.

Views expressed do not necessarily reflect official positions of the Federal Reserve System.