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How the Futures Market Can Miss the Mark on Rates

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FOR weeks now, the financial question of the day has been this: How fast and how far will the Federal Reserve raise short-term interest rates?

For a clue, professional Fed watchers, journalists and even Fed policy makers often turn to the futures market, where monthly contracts for the federal funds rate provide an up-to-date indication of investor expectations. The Fed funds rate, charged on overnight loans of bank reserves, is the benchmark interest rate set by the Fed policy makers. On June 30, they raised it to 1.25 percent from 1 percent. And as of Friday, Fed funds futures contracts indicated that investors were betting that the rate would rise by 0.86 percentage points, to an average of 2.11 percent, in January.

Of course, this contract isn't a perfect predictor of what the Fed will do six months down the road.

Unfortunately, a new study published by the National Bureau of Economic Research casts doubt on its reliability even as a tool for gauging the views of investors. What's worse, because Fed policy makers review the contracts to assess market expectations about interest rates, the futures contracts may even be warping the decisions of the Fed itself.

In the study, Monika Piazzesi, an assistant professor of finance at the University of Chicago Graduate School of Business, and Eric T. Swanson, an economist at the Federal Reserve Board, argue that the Fed funds futures contracts have a basic problem as an indicator: they are not a straightforward, unbiased measure of investor sentiment about the monetary policy outlook.

Instead of being a pure bet on what the Fed will do about rates, the authors say, the prices of these futures contracts include a premium to persuade investors to take the risk of buying them. This risk premium is often large enough, especially when the economy is in a recession or growing slowly, to attract buyers who have no particular view about where the Fed is heading, but who believe that they can nevertheless make a handsome profit by trading the contracts.

As a result, these traders skew the Fed funds futures as a gauge of investor sentiment, the authors conclude. When looking six months ahead, the researchers found, the risk premium accounts for an overestimation of a quarter of a percentage point, on average, of the Fed funds rate, according to data from futures contracts for the 15 years through 2003.

But the average doesn't tell the whole story. When rates are shifting, the distortion of investor expectations can be greater.

The problem is significant, the authors contend, because even the central bank assumes that the Fed funds futures rate actually reflects investor sentiment.

The study notes, for example, that the Fed's monetary report to Congress in February cited this futures rate several times as a proxy for investor sentiment. In the spring of 2003, the monetary report said, "data from the federal funds futures market suggested a significant probability of further easing of policy and did not imply any tightening before early 2004."

The paper says that the Fed policy makers adjust the futures rate only minimally to take the premium distortion into account, adding six basis points, or hundredths of a percentage point, to six-month Fed funds futures contracts. That is less than one-quarter of the distortion found by the two authors.

As a result, policy makers themselves may be misled about how well they are communicating their intentions to the financial markets.

"In making just a small adjustment, the Fed is misinterpreting the information contained in federal funds futures about investors' expectations," Ms. Piazzesi said in an interview.

Sometimes, the authors said, even the quarter-point figure understates the magnitude of errors because this average covers many months when the Fed funds rate is unchanged. When the Fed is at a policy turning point, as it was at the end of 2000, the error can be bigger.

In December 2000, just before the Fed started cutting its benchmark rate, the six-month Fed funds futures contract forecast a rate of 5.79 percent. Six months later, however, the actual rate was almost two points lower, averaging 3.97 percent for the month. About four-tenths of a point of that error, the researchers found, was because of the risk premium bias.

The report also includes a trading tip for speculators in Fed funds futures. It says that the risk premium, which can produce big profits if the contracts are bought at the right time, is greatest when the economy is slowing down or in a recession. During a recession, the premium on a Fed fund futures contract six months out swelled as much as five times the value in other periods.