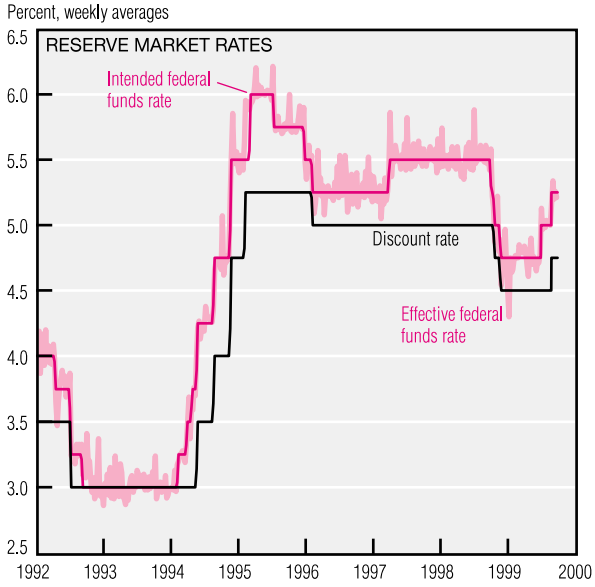
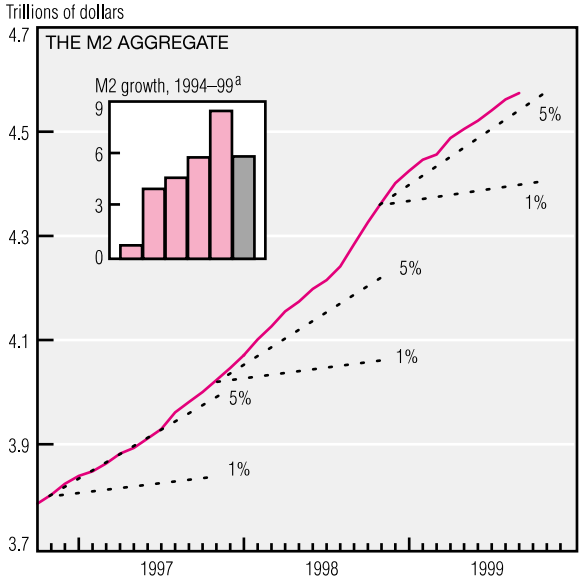
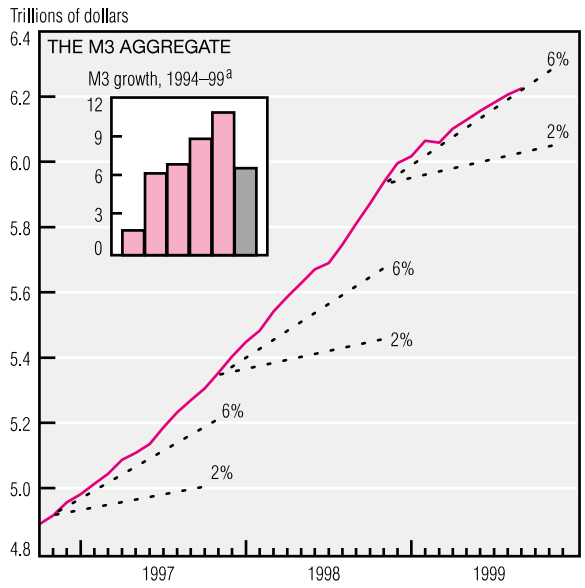
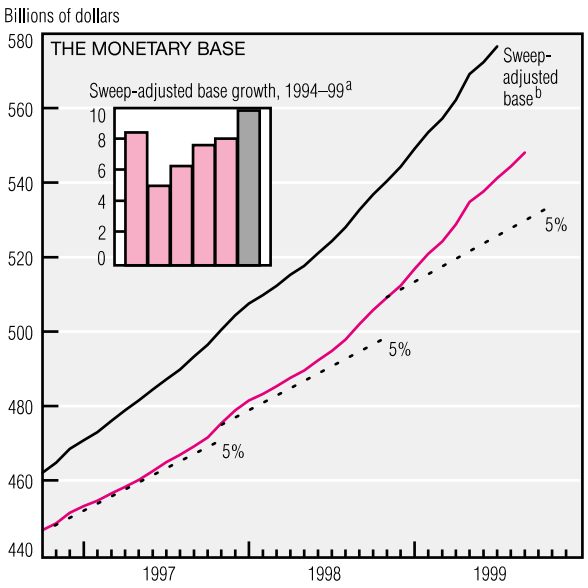
Monetary Policy









a. Growth rates calculated on a fourth-quarter over fourth-quarter basis. 1999 growth rates for M2 and M3 calculated on an estimated September over 1998:IVQ basis. 1999 growth rate for the sweep-adjusted monetary base calculated on an August over 1998:IVQ basis.
b. The sweep-adjusted base includes an estimate of required reserves saved when balances are temporarily shifted from reservable to nonreservable accounts.
NOTE: Data are seasonally adjusted. Last plots for M2, M3, and the monetary base are estimated for September 1999. Last plot for sweep-adjusted monetary base is August 1999. Dotted lines for M2 and M3 are FOMC-determined provisional ranges. Dotted lines represent growth in levels and are for reference only.
SOURCE: Board of Governors of the Federal Reserve System.

The September Federal Open Market Committee (FOMC) meeting concluded with no change in the intended federal funds rate. Earlier in the summer, the FOMC raised the intended funds rate by a total of 50 basis points (bp). A higher funds rate tends to increase the opportunity cost of holding fixed-rate deposits.

As an apparent result of the rate increases, growth rates of the broader monetary aggregates slowed. M2 growth decreased from 6.1% in August to 5.8% in September, a drop of 26 bp. Similarly, M3 declined 20 bp (from 6.1% to 5.9%).

M1 growth has decreased steadily from its high of 4.59% in April to 0.81% in September. Sweep-adjusted M1, which includes funds that are moved from checkable deposits into money market deposit accounts to avoid reserve requirements, declined from 7.0% in April to 5.7% in August. (September sweep data are not yet available). In contrast, the monetary base and the sweep-adjusted monetary base continue to expand vigorously, with little or no change in the rate of growth. Currency is driving growth in the monetary base, possibly because individuals are holding extra currency in preparation for Y2K.

Long-term interest rates have leveled off somewhat, after rebounding from the lows of October 1998. By this July, the 30-year Treasury, which

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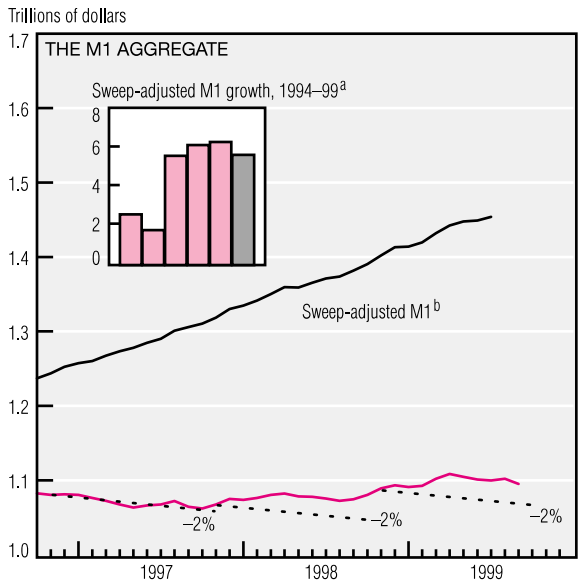
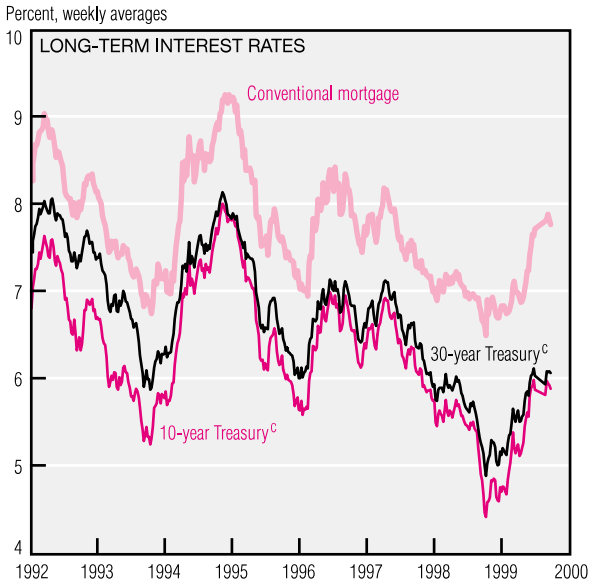
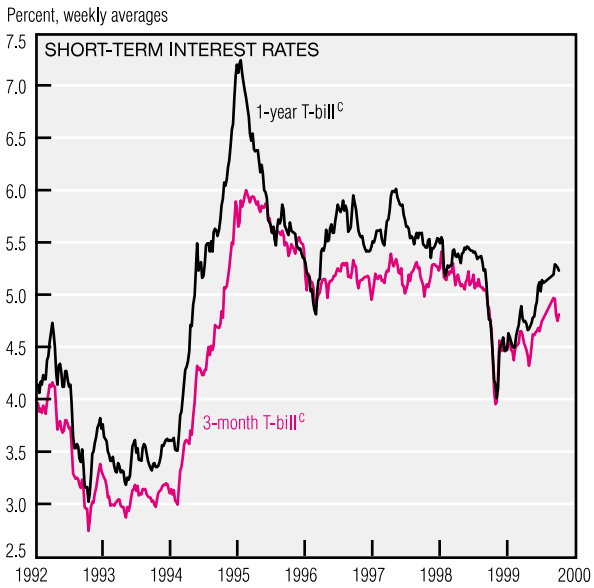
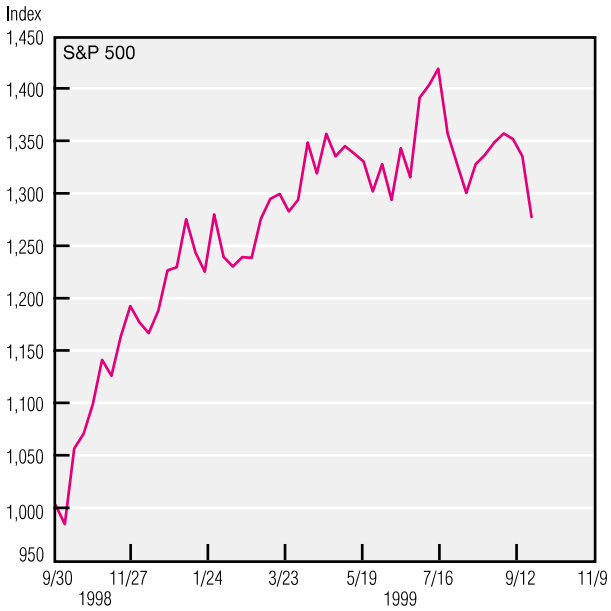
Monetary Policy (cont.)









a. Growth rates calculated on a fourth-quarter over fourth-quarter basis. 1999 growth rate for sweep-adjusted M1 calculated on an August over 1998:IVQ basis.
b. Sweep-adjusted M1 includes an estimate of balances temporarily shifted from M1 to non-M1 accounts.
c. Constant maturity.
NOTE: M1 data are seasonally adjusted. Last plot for M1 is estimated for September 1999. Last plot for sweep-adjusted M1 is August 1999. Dotted lines represent growth in levels and are for reference only.
SOURCES: Board of Governors of the Federal Reserve System; and Standard & Poor's Corporation.

slipped to a 10-year low of 4.7% last October, topped 6% for the first time since this May. Since July, it has hovered around that mark, averaging slightly above it (6.04%). Short-term interest rates are more mixed. While the 1-year T-bill has continued its ascent, the 3-month T-bill has fallen to 4.81% in recent weeks.

The S&P 500, a commonly used gauge of stock performance, has lost 11.1% of its value since July 16. (Analysts generally see a loss of 10% or more as a market correction.) The correction, coupled with benign inflation figures, apparently led many market participants to believe that a further hike in the federal funds rate was unlikely.

The expected federal funds rate trajectory drifted up at midsummer. This anticipation of a rate increase was realized when the FOMC raised the intended fed funds rate from 4.75% to 5.25% in two consecutive moves. But, generally speaking, how well does the fed funds futures market predict changes in the funds rate? Does the recent flattening of the implied yield on federal fund futures imply that the latest bout of rate increases is over? Futures contracts indicate that market participants, on average, are betting that the fed funds rate will inch up a mere 10 bp over the next three months. Over the

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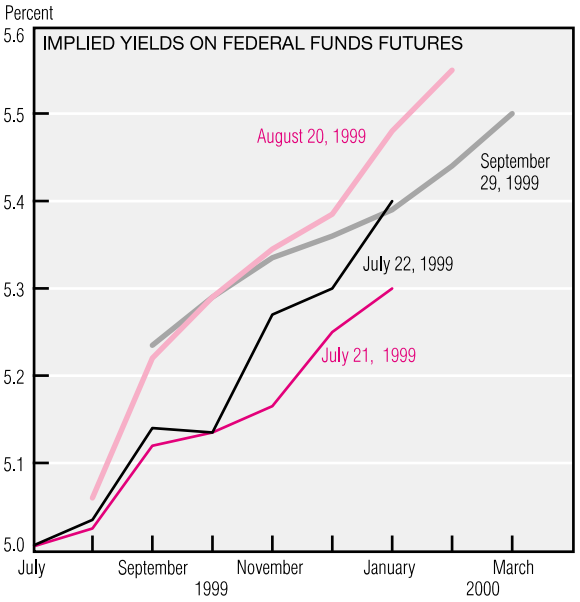
Monetary Policy (cont.)



Federal Funds Rate: Actual Changes and Market Predictions, 3 Months Forward[a,b]

Actual change	Predicted changes: 25 or less	More than 25 and less than 75	75 or more
25 or less	71%	56%	33%
More than 25 and less than 75	12%	6%	33%
75 or more	0%	25%	22%
Wrong direction	18%	13%	11%

Federal Funds Rate: Actual Changes and Market Predictions, 6 Months Forward[a,c]

Actual change	Predicted changes: 25 or less	More than 25 and less than 75	75 or more
25 or less	77%	70%	56%
More than 25 and less than 75	8%	10%	33%
75 or more	0%	10%	11%
Wrong direction	15%	10%	0%

Federal Funds Rate: Actual Changes and Market Predictions, 3–6 Months Forward[a,c,d]

Actual change	Predicted changes: 25 or less	More than 25 and less than 75	75 or more
25 or less	82%	45%	40%
More than 25 and less than 75	0%	27%	20%
75 or more	0%	18%	0%
Wrong direction	18%	9%	40%

a. Changes are given as number of basis points.
b. 1988:IVQ–1999:IIQ.
c. 1990:IVQ–1999:IIQ.
d. The data for 3–6 months forward are derived from the 3-months-forward and 6-months-forward contracts.
SOURCE: Chicago Board of Trade.

next six months, the anticipated increase is 25 bp.

Historically, when the market has bet that the funds rate would move less than 25 bp in the next three months, it has proved right about 71% of the time. Furthermore, the actual change on those occasions never exceeded 75 bp. This is an impressive performance. The market fared far worse, however, when it bet that the change in the funds rate would exceed 75 bp. This guess proved right only 22% of the time, and the wrong guesses were far wide of the mark. In fact, 44% of the time the funds rate changed less than 25 bp or moved in the direction contrary to the market's prediction. This indicates that the FOMC rarely moved when the market was not expecting any large change, but the opposite was not true. The market's expectation of a large change had little power to predict what the next move would be (if any).

The six-months-forward contract for the funds rate tells a similar story. When the market bet that the funds rate would move less than 25 bp, the actual funds rate followed suit 77% of the time. But when the market expected a large change in the funds rate (more than 75 bp), the actual funds rate differed markedly from this bet 56% of the time. Using the six- and three-months-ahead contracts, one can back out expectations for the funds rate three to six

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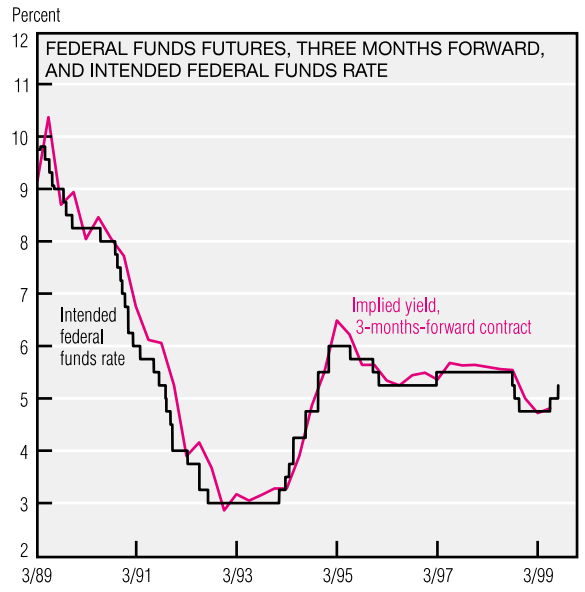

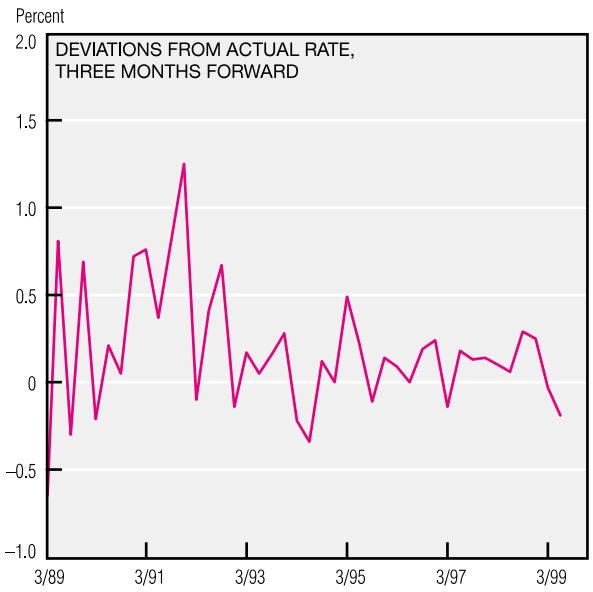

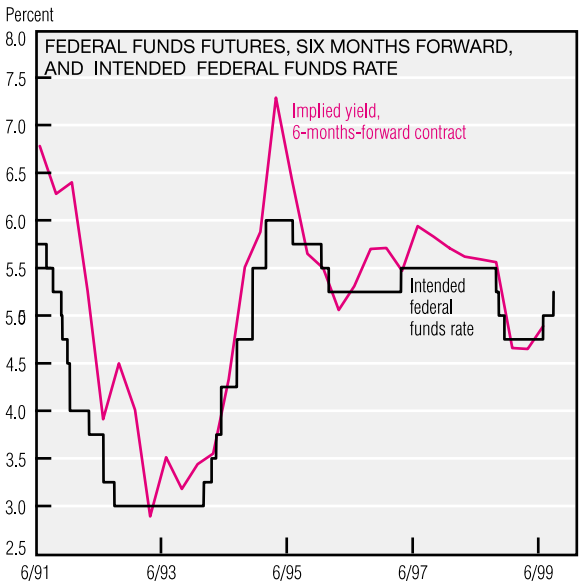

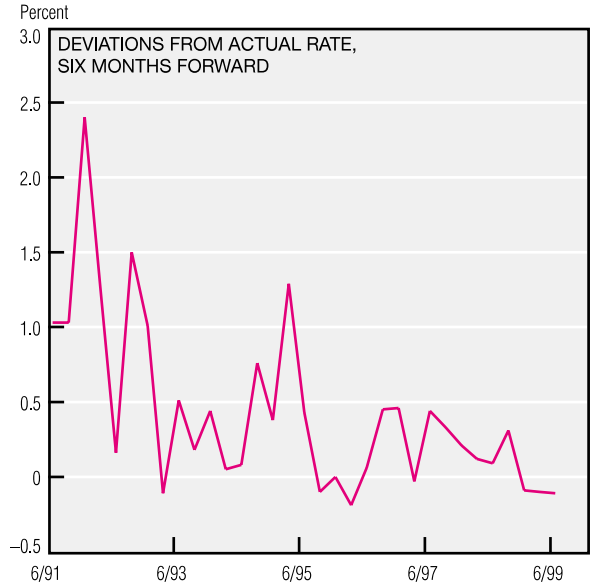

SOURCE: Chicago Board of Trade.

month ahead. Once again, the story is similar.

Another way to ascertain how efficient the fed funds futures market has been in foreseeing rate movements is to measure the deviations between the predicted and actual funds rates. Although the average miss for three months ahead was 30 bp, the large misses are concentrated early in the sample, when the FOMC lowered the funds rate dramatically (from 8% to 3% in just over a year). After that, the misses are relatively narrow and are centered on zero—another implication of an efficient forecast.

The six-months-ahead contract, with an average miss of 46 bp, tells a far different story. But the real indication that this number does not represent the market's best guess is the fact that the errors do not cluster around zero. Instead of averaging to zero, they average 41 bp.

The lack of predictive power in six-months-ahead contracts is not surprising, because there are generally few investors participating actively in this market. Contracts over the next three months, however, have substantially more investors, so their predictions are more efficient. Current three-months-ahead contracts clearly show that market participants would be surprised if the Fed moved substantially in the next three months.