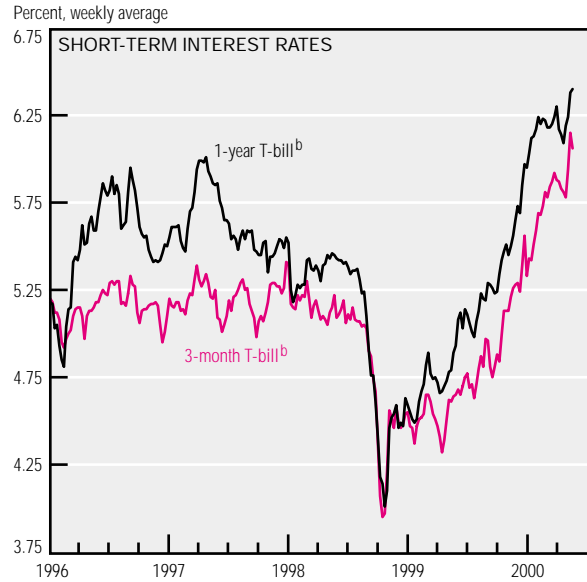
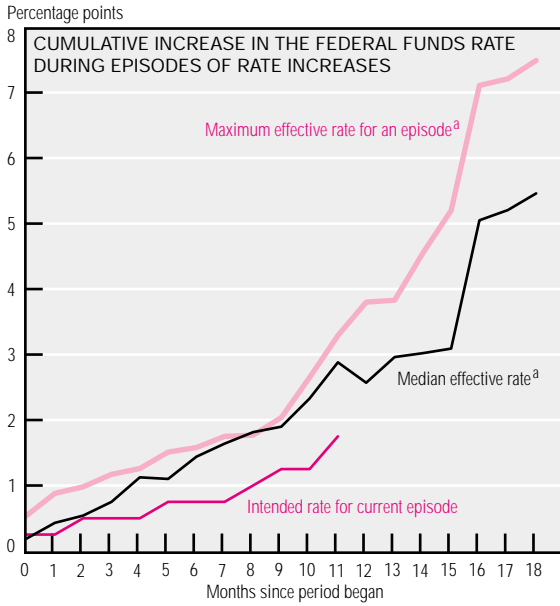
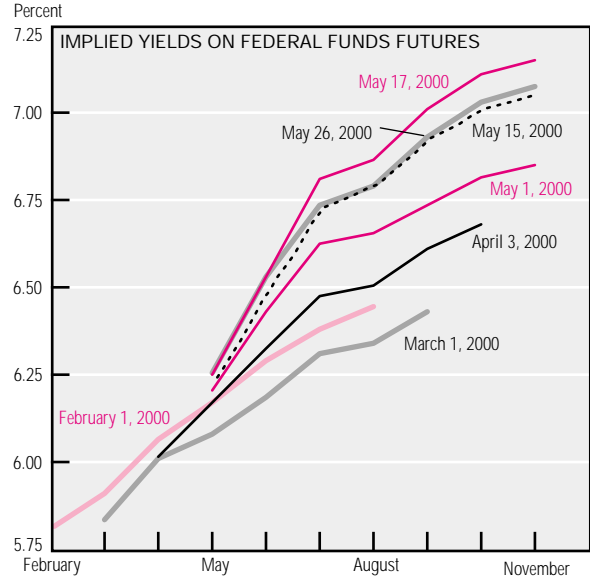
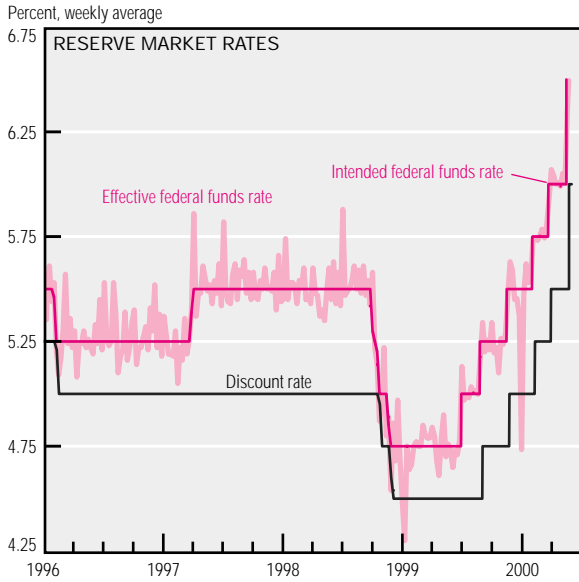


Monetary Policy



a. The median cumulative increase in the effective federal funds rate and the maximum cumulative increase during any given episode of rate increases were calculated for the period September 1954 to May 2000, excluding a period when the FOMC targeted reserves (October 1979 to December 1982). An episode of rate increases is defined as at least four consecutive months in which the average effective federal funds rate increased.

b. Constant maturity.

SOURCES: Board of Governors of the Federal Reserve System; and Chicago Board of Trade.

At its May 16 meeting, the Federal Open Market Committee (FOMC) voted to raise the federal funds target rate 50 basis points (bp) to 6.5%. The FOMC began the current round of increases in June 1999 and, until its most recent meeting, had raised the target rate by 25 bp increments in a remarkably steady manner. In fact, the Committee held to this pattern at five of the seven meetings previous to May; one could argue that only extraordinary circumstances, created by the century date change, prevented action at the December 1999 meeting. The Commit-

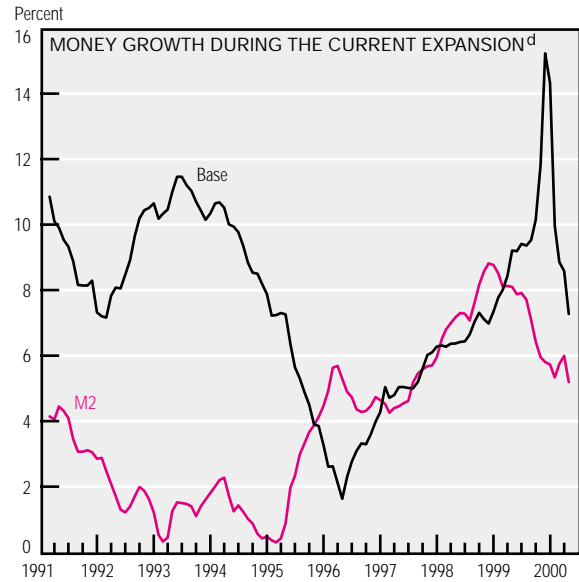
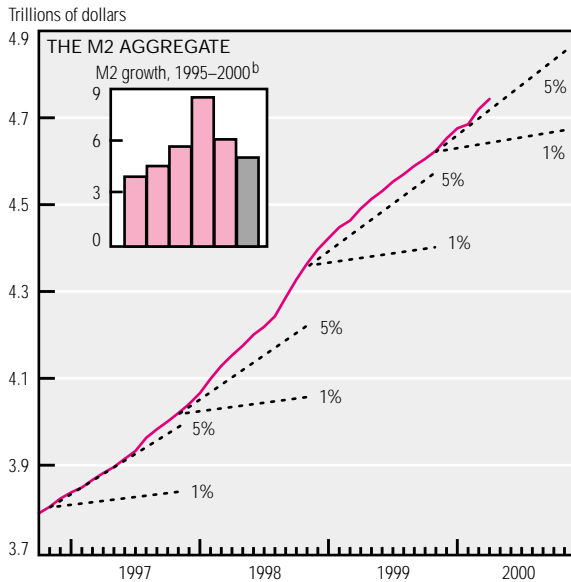
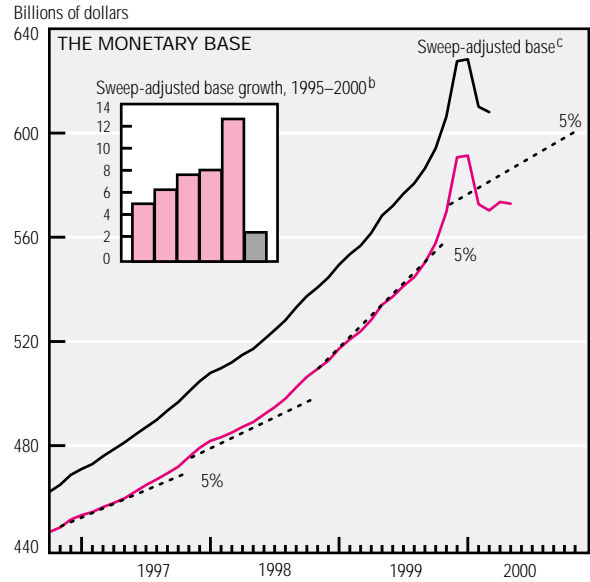
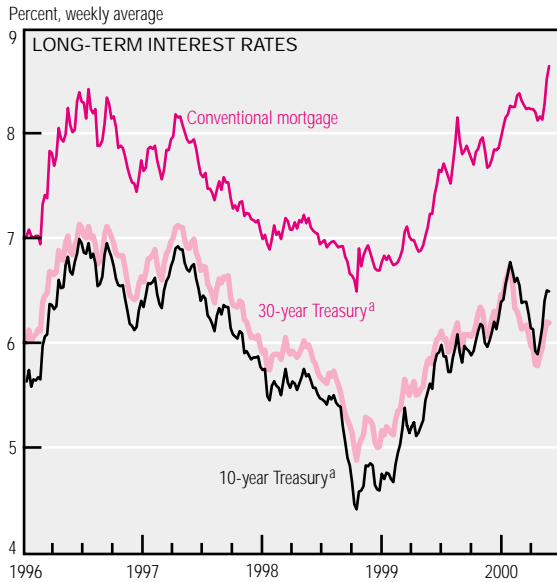
tee's press release cited potential inflationary imbalances fostered by continued growth in demand, which exceeded "even the rapid pace of productivity-driven gains in potential supply," as the reason for its more aggressive move of 50 bp.

Implied yields on fed funds futures, a widely used indicator of the expected policy path, reveal that market participants assigned a high probability to an increase of more than 25 bp. Expectations of future increases rose immediately after the announcement but have since returned to their pre-meeting levels.

On May 26, the November contract traded at 7.08%, 58 bp above the current target rate.

Although we may have become used to increases of 25 bp, considerably larger ones are not uncommon. Compared to other periods when the FOMC raised rates, the current episode is relatively mild. The monthly average for the effective federal funds rate shows that since the mid-1950s, the maximum cumulative increase (which occurred between March 1972 and September 1973), was nearly 7.5 percentage (continued on next page)

Monetary Policy (cont.)



a. Constant maturity.
 b. Growth rates are percentage rates calculated on a fourth-quarter over fourth-quarter basis. The 2000 growth rates for M2 and the monetary base are calculated on an estimated May over 1999:IVQ basis. The 1999 growth rate for the sweep-adjusted base is calculated on a March over 1999:IVQ basis.
 c. The sweep-adjusted base contains an estimate of required reserves saved when balances are shifted from reservable to nonreservable accounts.
 d. Year-over-year percent change.
 NOTE: Data are seasonally adjusted. Last plots for M2 and the monetary base are estimated for May 2000. Last plot for sweep-adjusted base is March 2000. Dotted lines for M2 are FOMC-determined provisional ranges. All other dotted lines represent growth rates and are for reference only.
 SOURCE: Board of Governors of the Federal Reserve System.

points. Moreover, the cumulative increase in the intended rate since June 1999 (1.75 percentage points) is more than a full percentage point lower than the median increase in the effective rate 11 months after the start of an episode of rate increases.

Both long- and short-term interest rates moved sharply upward after the FOMC's May announcement. The 3-month and 1-year Treasury bills reached 6.06% and 6.40%, up 73 bp and 45 bp on the year, respectively. The 10-year Treasury bond

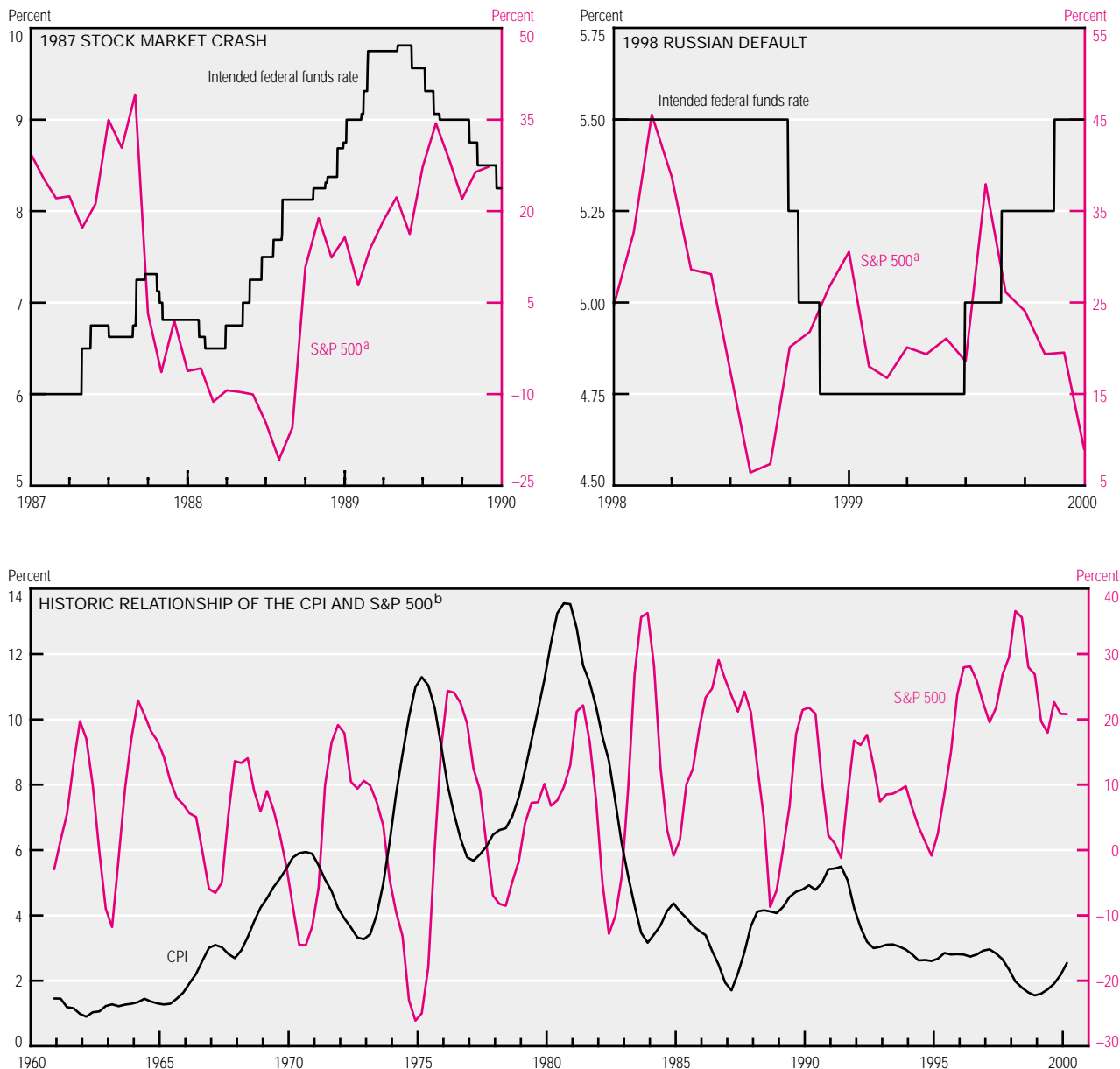
yield regained ground (up 8 bp on the year at 6.49%). Yields on the 30-year Treasury bond made some gains but remain depressed (down 27 bp on the year at 6.19%).

The monetary aggregates show signs of slowing in the face of higher interest rates. Annualized growth in the sweep-adjusted monetary base (2.37%) shows the most dramatic reversal; however, annualized M2 growth is also lower than in recent years. The growth of these monetary aggregates, fairly robust in the latter

years of the current expansion, now appears to be decelerating.

Ever since Federal Reserve Chairman Alan Greenspan uttered the now-famous phrase "irrational exuberance" in late 1996, there has been growing debate over whether the Fed should respond to asset prices. Many central bankers maintain that using interest rates to respond to stock markets—and possibly to manipulate them—is dangerous. Nonetheless, central banks
(continued on next page)

Monetary Policy (cont.)



a. Closing price at end of month, year-over-year percent change.

b. Four-quarter trailing average, year-over-year percent change.

SOURCES: U.S. Department of Labor, Bureau of Labor Statistics; Board of Governors of the Federal Reserve System; and *Wall Street Journal*.

almost certainly react to significant stock market moves, such as the 1987 crash. In that instance, the Federal Reserve lowered interest rates immediately, opening the spigot for more rapid money growth. To a lesser extent, the same action followed the Russian default crisis in 1998. These events, however, were immediate reactions to a potential financial crisis rather than a concerted response to the market.

Whether central banks systematically increase interest rates when stock markets rise over an extended

period is more germane to the current debate. Some fear that increased paper wealth will spill over into rapid consumer spending, thereby igniting inflation.

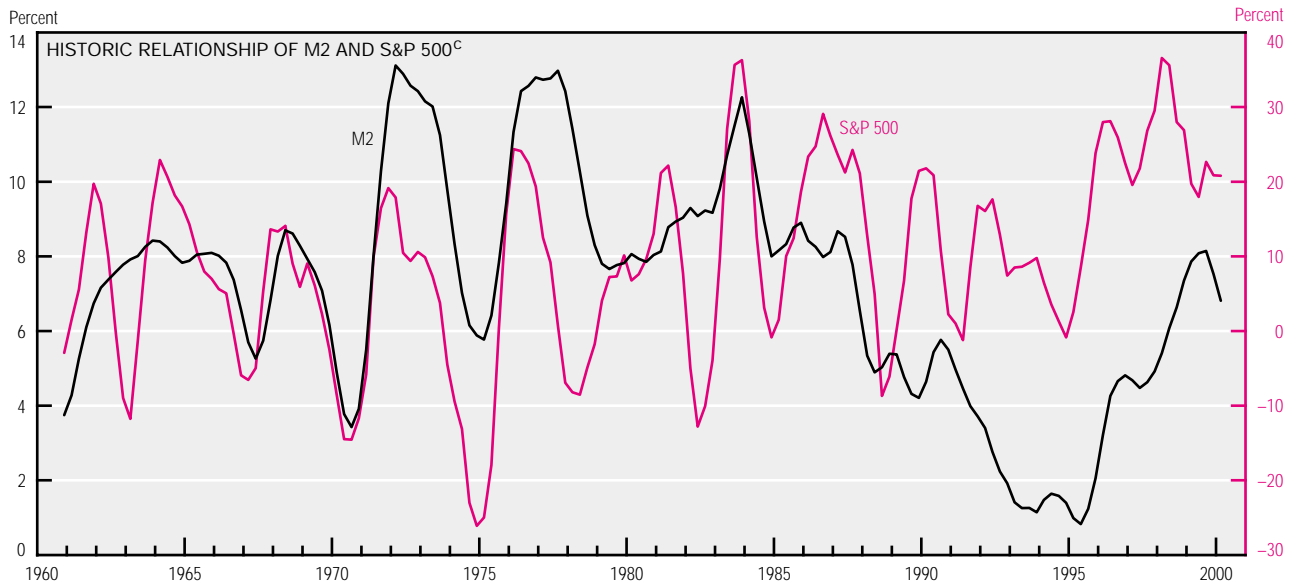
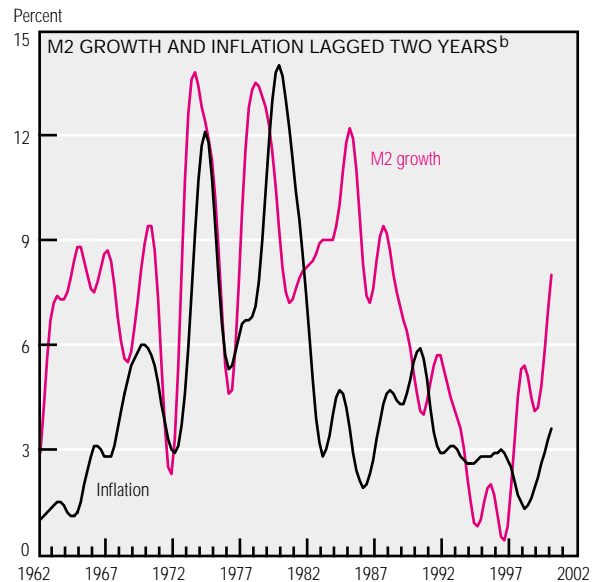
Evidence that the stock market causes inflation is weak at best. There is little discernible correlation between CPI inflation and the S&P 500 growth rate. The two tracked each other fairly closely in the 1970s and early 1980s, but this is the exception, not the rule. Given the twin recessions during the period, moreover, many argue that even this cor-

relation is spurious—a reaction to changes in underlying economic conditions, not in the stock market.

Cross-country evidence suggests that only in a minority of countries do stock markets contribute to inflation, after controlling for its usual causes. In only 25% of countries did lagged stock market growth over a one-year horizon help to explain inflation variability. In contrast, lagged inflation contributed to inflation variability in 100% of countries and lagged changes in money in
(continued on next page)

Monetary Policy (cont.)

Factors Affecting Inflation in Cross-Country Analysis ^a	Percent of countries	
	One-year horizon	Two-year horizon
Change in CPI	100.0	83.3
Change in GDP	33.3	33.3
Change in money	58.3	58.3
Change in stock prices	25.0	33.3



- a. Table shows the percentage of country regressions for which the coefficient of at least one lag window of a variable appeared correctly signed and significant at least at the 10% level.
- b. Inflation and M2 growth are annualized percent changes in quarterly average CPI all items and M2, respectively. All data are filtered using a band-pass filter to remove frequencies of two years and higher.
- c. Four-quarter trailing average, year-over-year percent change.
- SOURCES: U.S. Department of Labor, Bureau of Labor Statistics; Board of Governors of the Federal Reserve System; Charles Goodhart and Boris Hofmann, "Do Asset Prices Help to Predict Consumer Price Inflation?" Financial Markets Group, London School of Economics; Lawrence Christiano and Terry Fitzgerald, "The Band Pass Filter," National Bureau of Economic Research, Working Paper no. 7257, July 1999; and *Wall Street Journal*.

58%. Lagged GDP growth is a better inflation predictor than stock market growth, although it was significant in only one-third of countries.

Monetary policy—as defined by changes in the fed funds rate—does not usually respond directly to the stock market. Money growth, as defined by M2, is highly correlated with the stock market, but even this relationship apparently broke down in the 1990s. The correlation does not reflect a concerted effort of the

central bank to increase M2 in response to the stock market, however. Stock market transactions are frequently conducted in M2 assets; thus, the demand for M2 generally increases with the stock market. This change is driven by the market, not by policy.

Increases in M2 over longer time horizons lead to increased inflation, explaining the weak correlation between CPI inflation and stock market growth. Because high money

growth over long periods inevitably leads to inflation, some argue that central banks should defuse market-driven money growth by increasing the fed funds rate. This argument has merit, but it has more to do with whether central banks should target M2 growth rather than the stock market. Evidence suggests that policymakers should be concerned with rapid and sustained M2 growth, not with transitory changes in money growth.