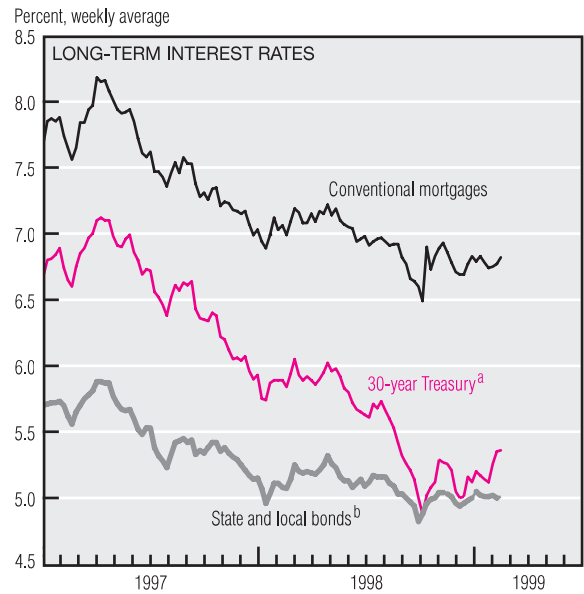
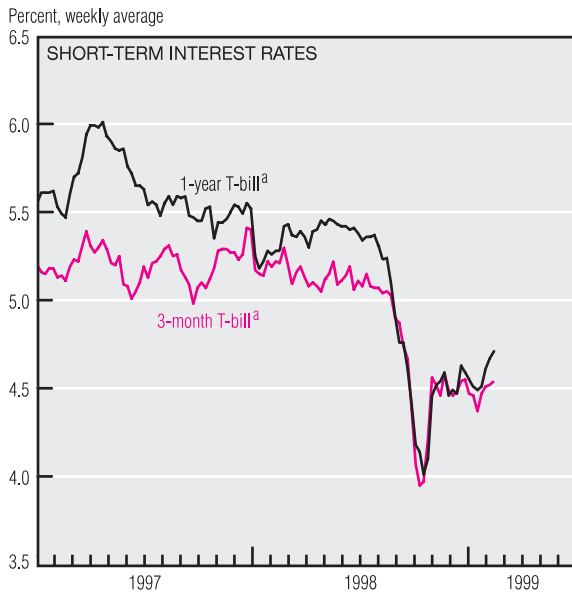
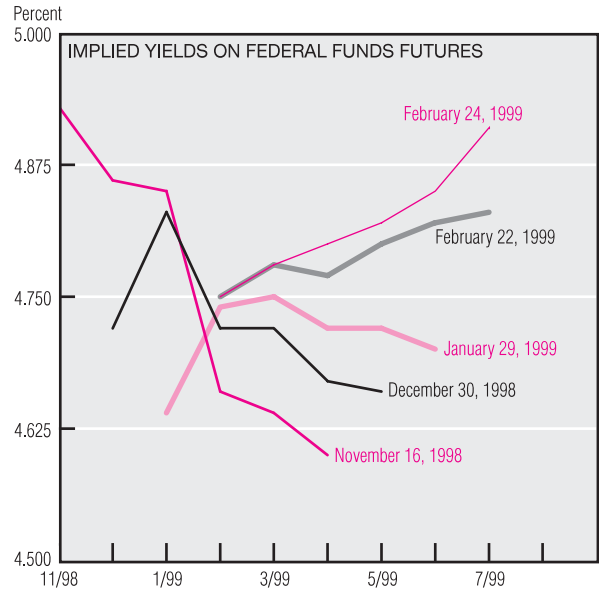
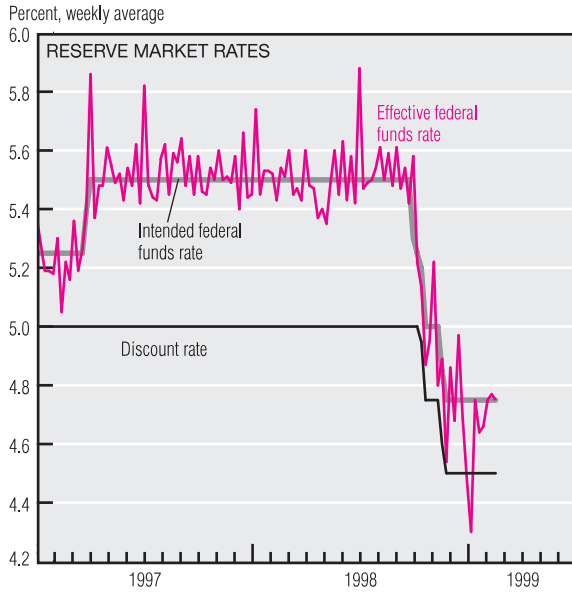


# Monetary Policy



a. Constant maturity.  
b. Bond Buyer Index, general obligation, 20 years to maturity, mixed quality.  
SOURCES: Board of Governors of the Federal Reserve System; and the Chicago Board of Trade.

On February 23 and 24, Federal Reserve Chairman Alan Greenspan testified before Congress as part of the Federal Reserve's semiannual report on monetary policy. This testimony, along with a written report, summarizes the central bank's view of current economic conditions, monetary policy, and the economic outlook through 1999.

In his testimony, Chairman Greenspan lauded the economy's performance over the past year but warned of "considerable upside and downside risks to the economic

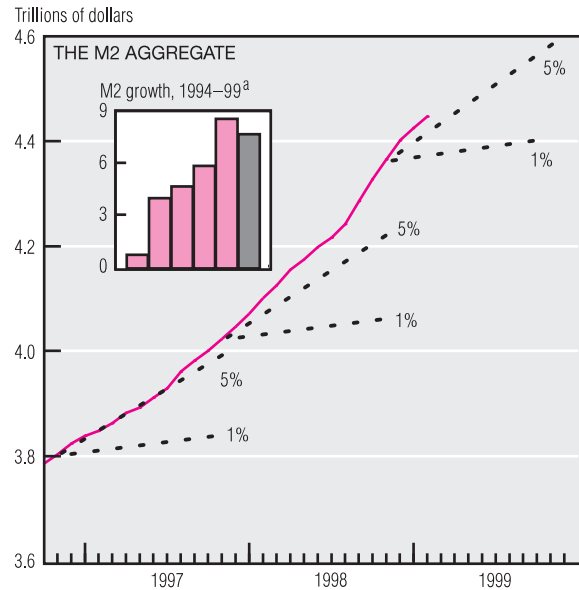
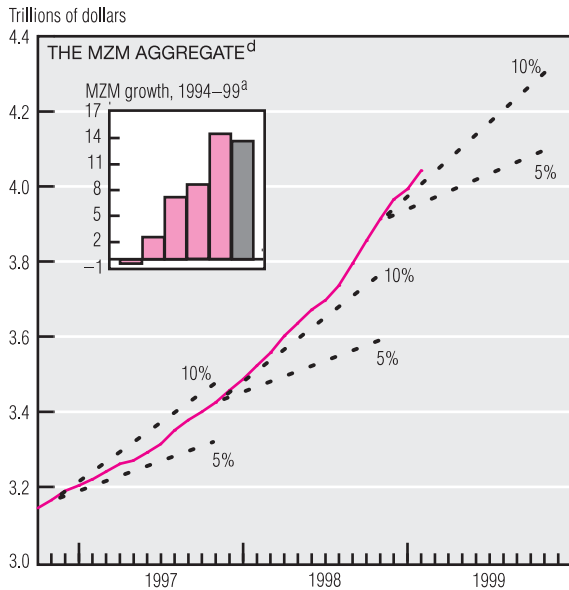
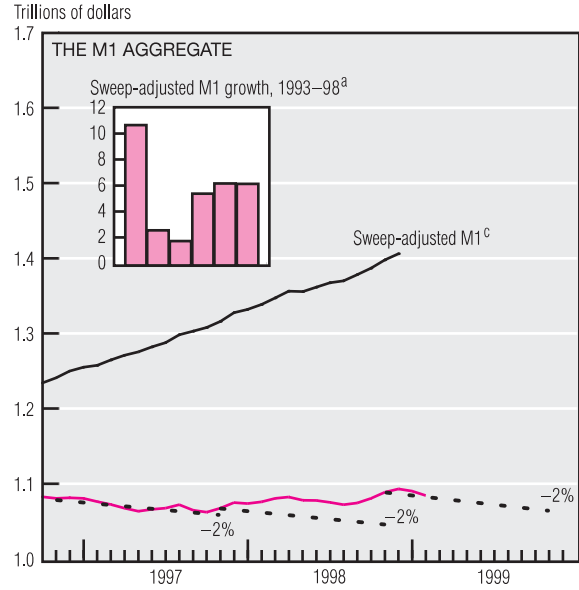
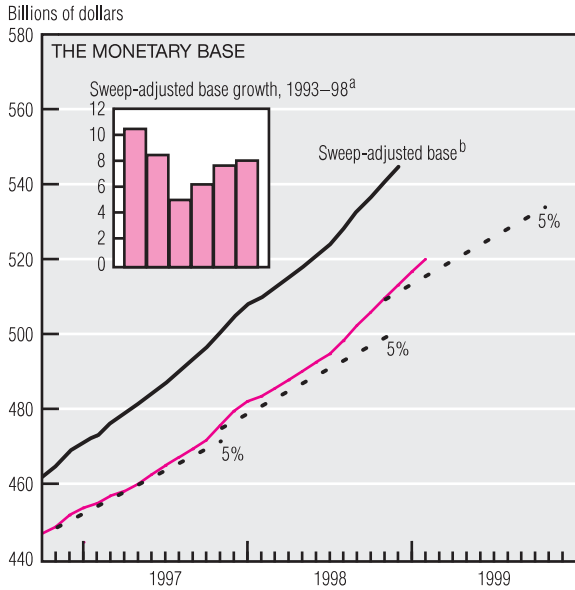
outlook." He noted that "in light of all these risks, monetary policy must be ready to move quickly in either direction should we perceive imbalances and distortions developing that could undermine the economic expansion." He also restated the Federal Reserve's commitment to maintaining price stability, saying, "We perceive stable prices as optimum for economic growth. Both inflation and deflation raise volatility and risks that thwart maximum economic growth."

As for 1999, most members of the Board of Governors and the Federal

Reserve Bank presidents expect that the economy will continue expanding moderately, with inflation increasing slightly over its 1998 rate. The central tendency of the forecasts for real GDP growth (from 1998:IVQ to 1999:IVQ) is 2½% to 3%, while the central tendency for inflation as measured by the Consumer Price Index is 2% to 2½%. The unemployment rate is expected to remain around 4¼% to 4½%.

The intended federal funds rate was unchanged at the February meeting of the Federal Open Market  
*(continued on next page)*

# Monetary Policy (cont.)



a. Growth rates are percentage rates calculated on a fourth-quarter over fourth-quarter basis. The 1999 growth rates for M2M and M2 are calculated on an estimated February 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.

c. Sweep-adjusted M1 includes an estimate of balances temporarily shifted from M1 to non-M1 accounts.

d. M2M is an alternative measure of money that is equal to M2 plus institutional money market mutual funds less small time deposits.

NOTE: Data are seasonally adjusted. Last plots for M1, M2, and M2M are estimated for February 1999. Dotted lines for M2 are FOMC-determined provisional ranges. All other dotted lines represent growth in levels and are for reference only.

SOURCE: Board of Governors of the Federal Reserve System.

Committee (FOMC), remaining at 4¼%. Since then, market interest rates have increased somewhat, most notably long-term rates. The implied yield on federal funds futures has recently begun to tilt upward, indicating that anticipation of forthcoming decreases in the federal funds rate has largely diminished and that expectations now lean toward a rate increase as the next Fed move. In part, this may be a response to the Chairman's state-

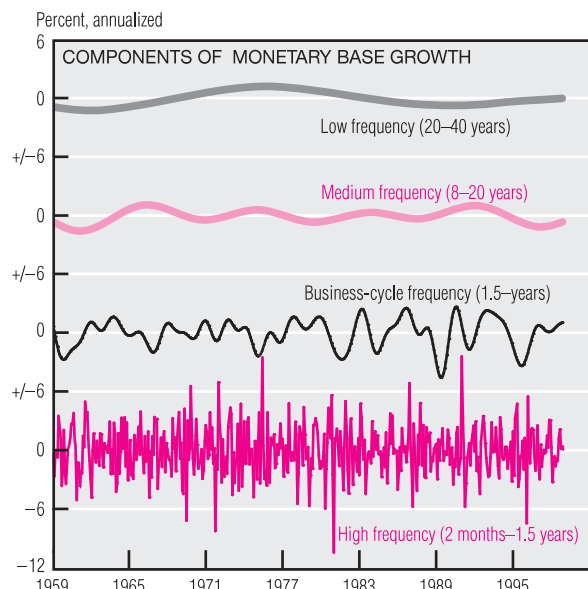
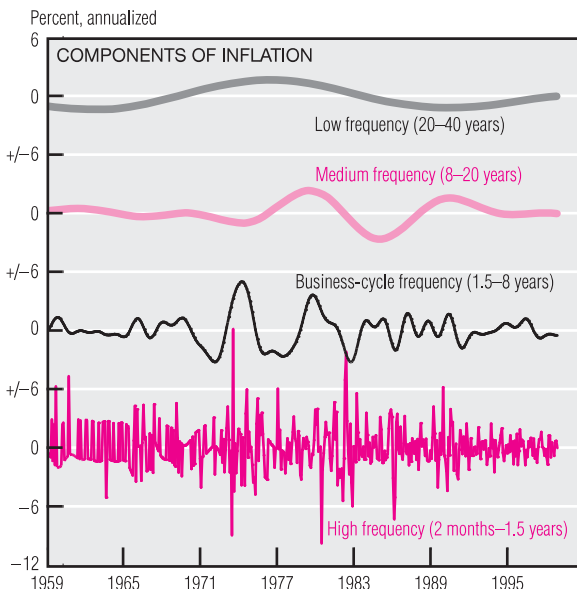
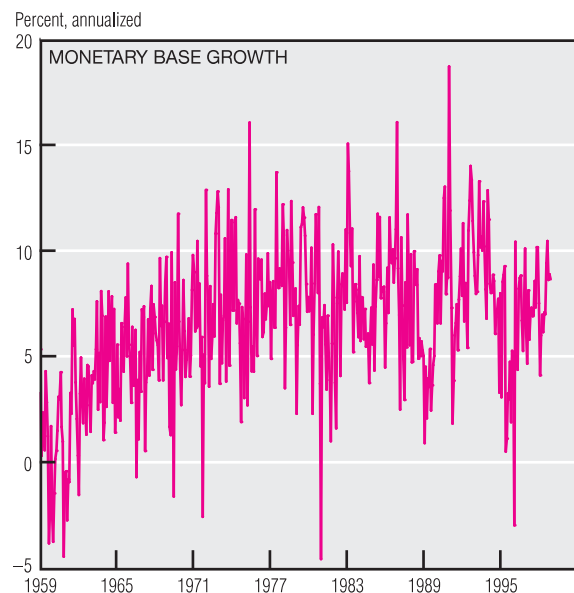
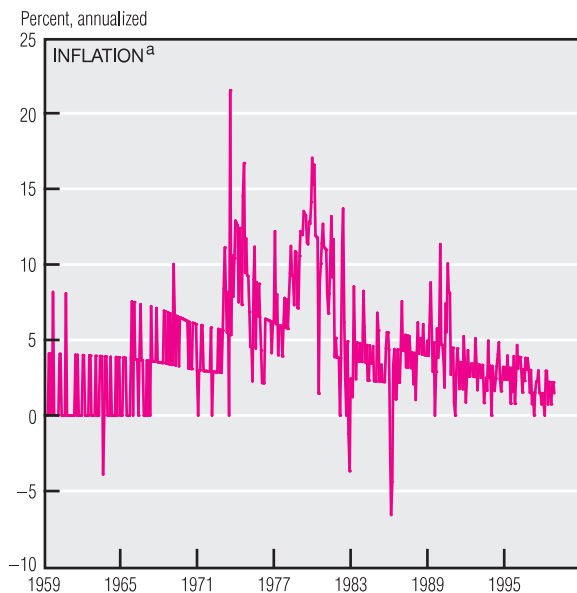
ment that “[t]he Federal Reserve must continue to evaluate, among other issues, whether the full extent of the policy easings undertaken last fall to address the seizing-up of financial markets remains appropriate as those disturbances abate.”

Growth in monetary aggregates remains strong, with year-to-date M2 and M3 growth well above the target range set by the FOMC. The Committee reaffirmed the 1999 monetary growth ranges that were set last July:

1%–5% for M2 and 2%–6% for M3. The report to Congress noted that “[g]iven continued uncertainties about movements in the velocities of M2 and M3 (the ratios of nominal GDP to the aggregates), the Committee would have little confidence that money growth within any particular range selected for the year would be associated with the economic performance it expected or desired.” However, the report

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## Monetary Policy (cont.)



a. As measured by the Consumer Price Index.

NOTE: Data are monthly and seasonally adjusted. Data are filtered using a band-pass filter.

SOURCES: U.S. Department of Labor, Bureau of Labor Statistics; Board of Governors of the Federal Reserve System; and Lawrence J. Christiano and Terry Fitzgerald, "The Band-Pass Filter," February 1999 (unpublished).

also states that "money growth still has some value as an economic indicator," and that "the Committee will continue to monitor the monetary aggregates as well as a wide variety of other economic and financial data to inform its policy deliberations."

As evidenced by comments in the report, the view that monetary aggregates are a valuable policy tool has largely diminished in recent years. This is a response to a well-documented breakdown in the short-run relationship between money, prices, and output

that occurred in the early 1990s. In contrast, there is a relatively close relationship between money growth and inflation over long-term horizons, giving credence to the view that inflation is, in fact, a monetary phenomenon.

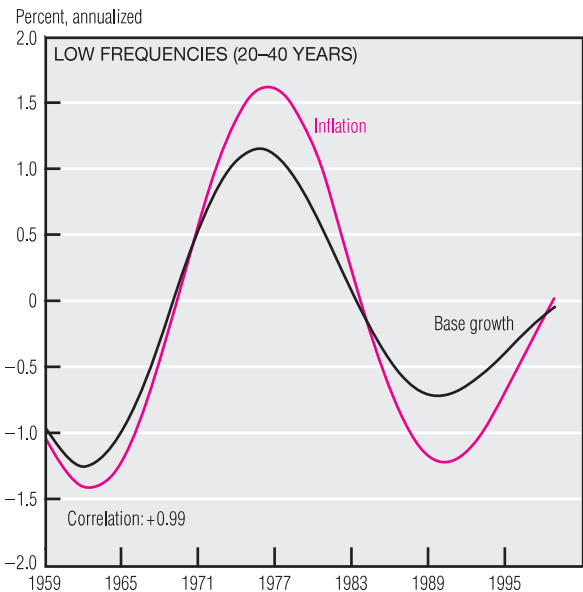
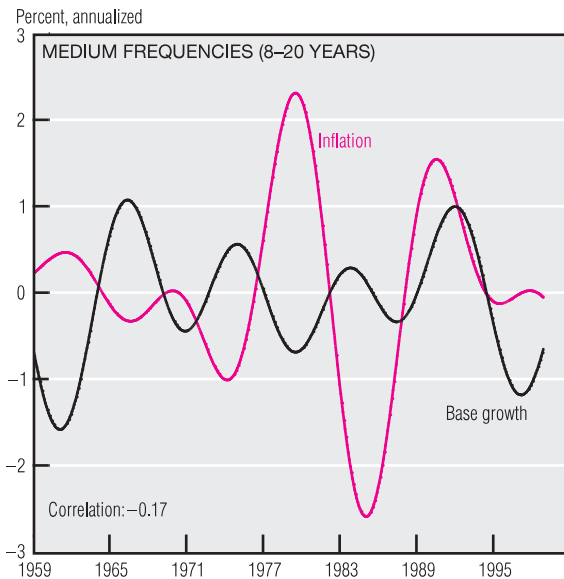
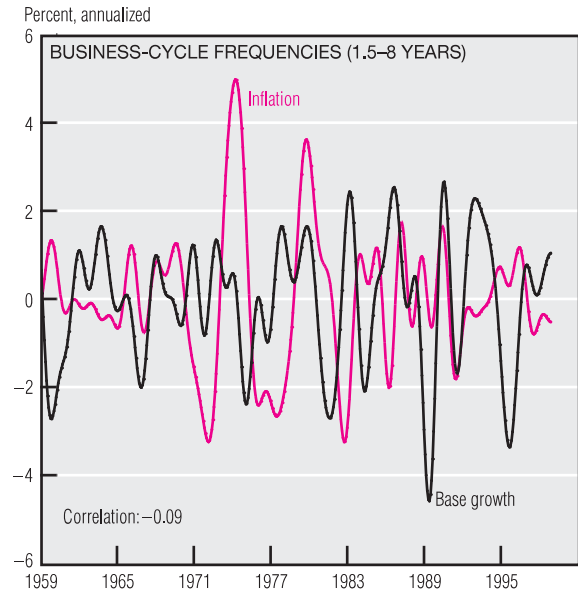
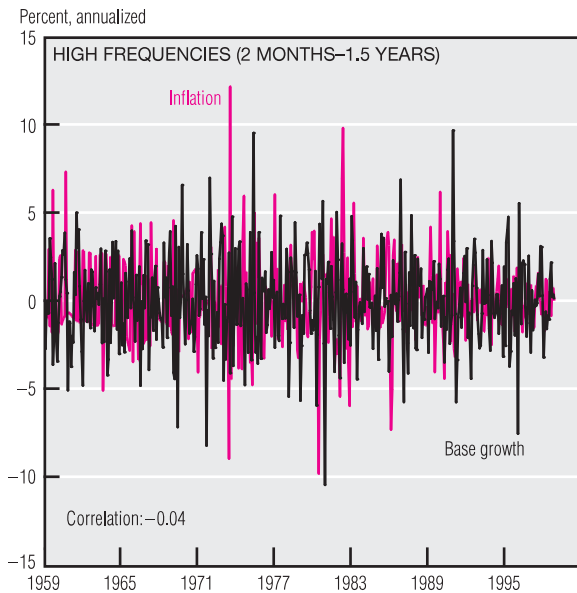
This contrast in the statistical relationship between money and inflation over short- and long-term horizons leads one to question the length of the long-term horizon at which money growth and inflation are closely associated. If "long" means three or four years, then one could argue that the monetary

aggregates provide clear guidelines for policy, despite the lack of a clear relationship over a month or quarter. However, if long is 40 years, it is less clear that the aggregates are useful for policy decisions that are made at roughly six-week intervals.

One strategy for addressing this question is to first break down the inflation and money-growth data into a set of components containing the variations in each series at different frequencies, as shown in the charts. The raw data on monthly inflation can be broken

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## Monetary Policy (cont.)



NOTE: Data are monthly and seasonally adjusted. Data are filtered using a band-pass filter.

SOURCES: U.S. Department of Labor, Bureau of Labor Statistics; Board of Governors of the Federal Reserve System; and Lawrence J. Christiano and Terry Fitzgerald, "The Band-Pass Filter," February 1999 (unpublished).

down into a component that captures high-frequency movements in the data, a component that captures business-cycle movements, and components that capture slower-moving aspects of the data. The same can be done for money growth. After doing this, we can look at the relationship between money growth and inflation for the different frequency components.

Not surprisingly, there is little correlation between inflation and the high-frequency components of money growth. Furthermore, the

observation that money growth and inflation are closely associated over long horizons is dramatically demonstrated by the data component associated with 20- to 40-year fluctuations. The correlation between these series is almost one. However, this relationship does not hold up when we look at the business-cycle component of the data, or even the component that captures fluctuations of eight to 20 years. For these components, the correlation between money growth and inflation is slightly negative.

Of course, money growth today is thought to influence inflation in

the future, so the fact that these variables do not move contemporaneously is not so surprising. In fact, the correlation between money growth and future inflation is somewhat positive in all four components. However, as the charts indicate, there is no clear, consistent relationship between money growth and future inflation in the business-cycle and medium-frequency components of the data. That is, the correlation between current money growth and future inflation is not particularly strong for any lag length in these components.