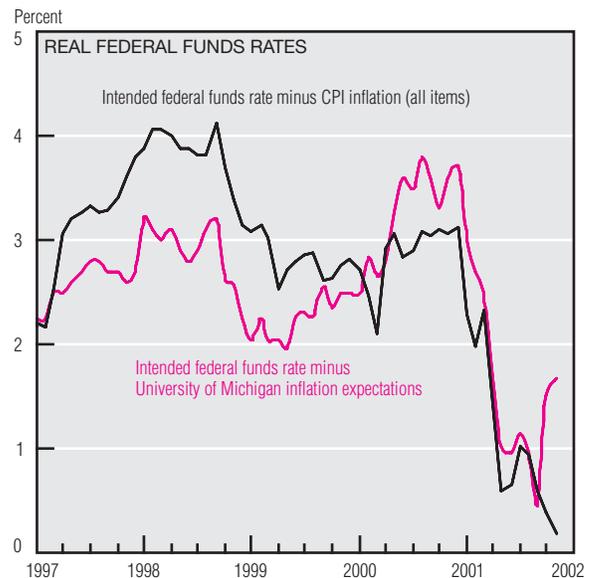
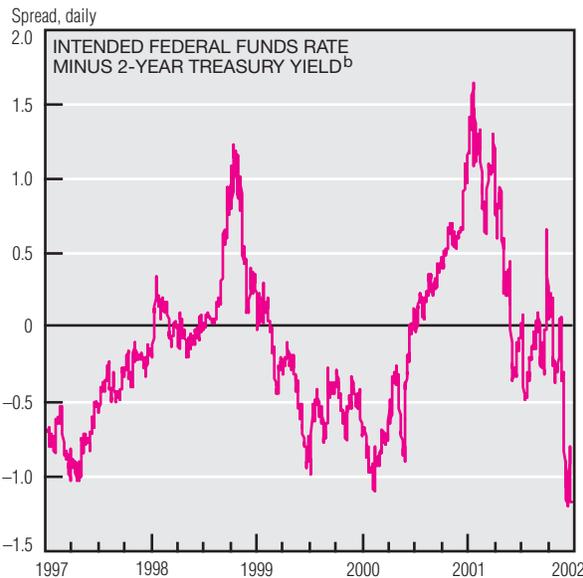
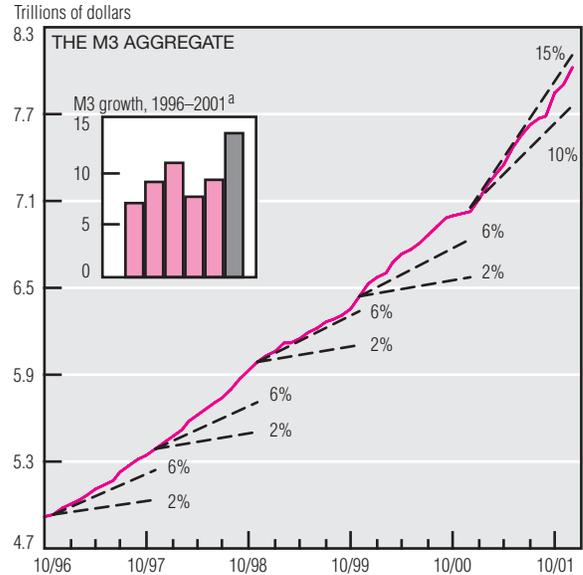
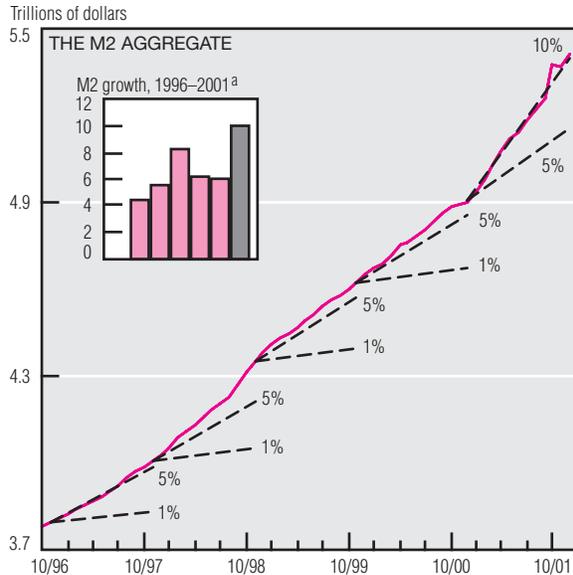


Money and Financial Markets



a. Growth rates are percentage rates calculated on a fourth-quarter over fourth-quarter basis. The 2001 growth rates for M2 and M3 are calculated on a November over 2000:IVQ basis. Data are seasonally adjusted.

b. Constant maturity.

NOTE: Last plots for M2 and M3 are for November 2001. Prior to November 2000, dotted lines are FOMC-determined provisional ranges. Subsequent dotted lines represent growth in levels and are for reference only.

SOURCES: U.S. Department of Labor, Bureau of Labor Statistics; Board of Governors of the Federal Reserve System, *Federal Reserve Statistical Releases*, "Money Stock and Debt Measures," H.6, and "Selected Interest Rates," H.15; and University of Michigan Survey of Consumers.

Although headlines about monetary policy mostly announce changes in the target federal funds rate, the nature of those changes cannot be appreciated without looking at their effect on the money supply. Similarly, changes in the fed funds rate may indicate very different policy stances, depending on the course of market interest rates.

In the case of money, the broad aggregates have been growing quickly: Both M2 and M3 increased at rates exceeding 10% during 2001.

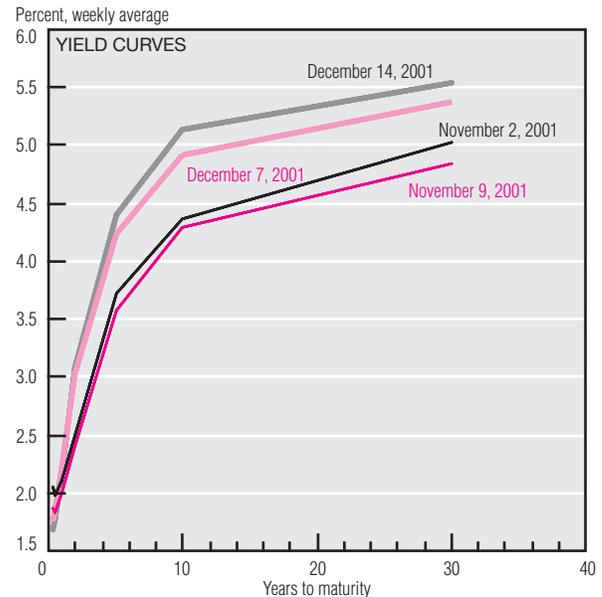
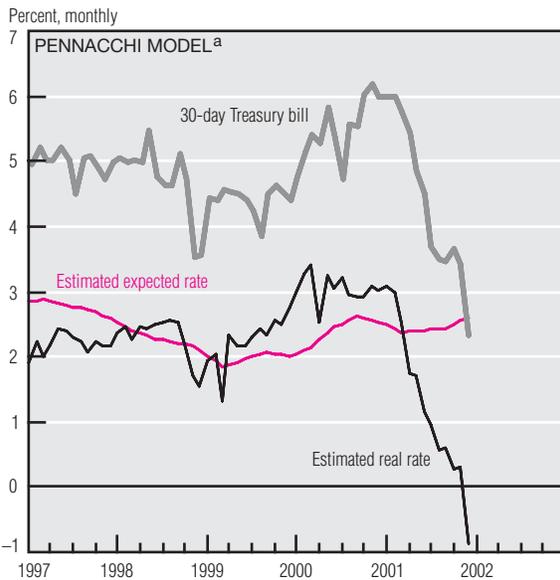
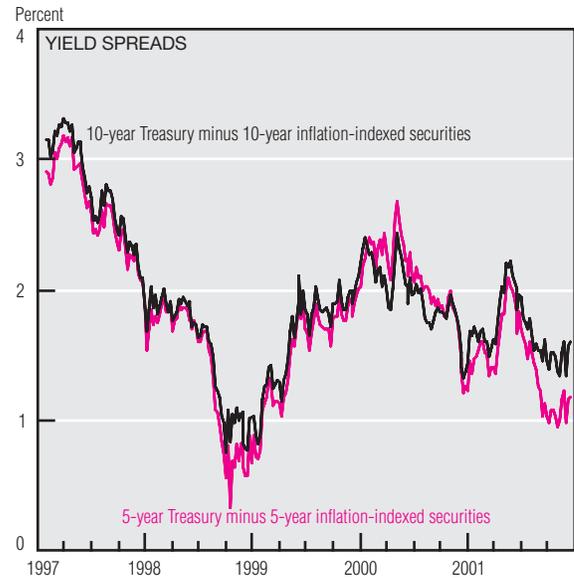
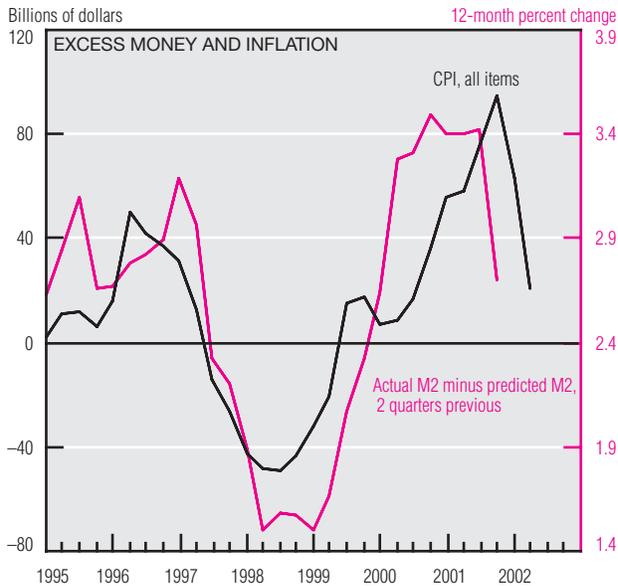
Describing the rate reductions as an easing of monetary policy is validated by the response of money.

A similar validation of the easing concept comes from looking at the fed funds rate relative to market rates. The reductions shrank the difference between the fed funds rate and the 2-year Treasury bond yield more than 2½ percentage points in 2001. The spread fell noticeably (41 basis points) after the November 6 meeting, but it continued to drop a further 85 bp over the next three weeks, even without a change in the target rate.

Another rate that declined steeply in 2001 was the real (inflation-adjusted) federal funds rate. One simple measure of this, the fed funds rate less CPI inflation, fell nearly 300 bp on the year. A more forward measure of expectations, from the University of Michigan survey, shows a drop over the year but a sizeable increase since August: While the target has decreased, inflationary expectations have fallen faster, from 2.8% in August to 0.4% in November.

(continued on next page)

Money and Financial Markets (cont.)



a. The estimated expected inflation rate and the estimated real rate are calculated using the Pennacchi model of inflation estimation and the median forecast for the GDP implicit price deflator from the *Survey of Professional Forecasters*. Monthly data.
 SOURCES: U.S. Department of Labor, Bureau of Labor Statistics; Board of Governors of the Federal Reserve System, *Federal Reserve Statistical Releases*, "Selected Interest Rates," H.15; and Bloomberg Financial Information Services.

While it may not be apparent in the Michigan survey, worries about higher inflation are a traditional accompaniment to faster monetary growth. Money supply is only half the analysis, however, because money demand also matters: To the extent that inflation is too much money chasing too few goods, "too much money" must be defined relative to the amount that people want to hold. A simple model that tracks the difference between supply and demand for M2 captures the broad outlines of

inflation over the past several years, though it appears to be lagging the recent downturn in inflation.

Other inflation measures have been holding fairly steady. The difference between yields on nominal and real Treasury bonds, which has been fluctuating between 1.3% and 1.6% since mid-August, shows no discernible trend. A shorter-term measure from a more complicated model, using 30-day T-bill rates and survey measures of inflation, increased slightly (from 2.48% to 2.60%) in 2001. It pays to note that the real

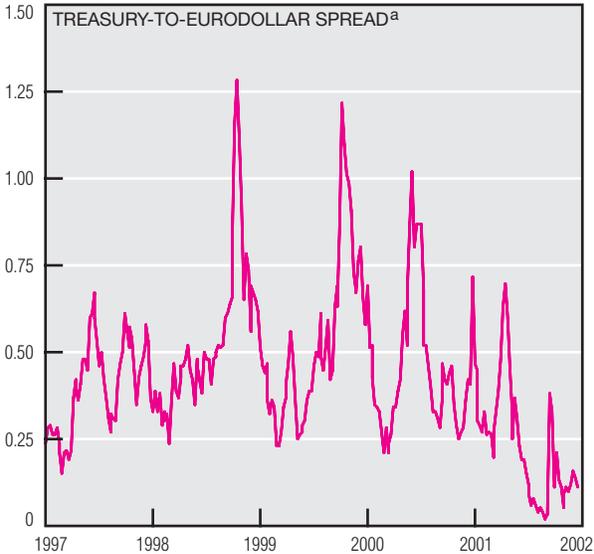
interest rate derived from this model went negative in December.

Some people also look to the yield curve as a measure of inflationary expectations. Though not always accurate because of liquidity effects, risk factors, and the like, some component of the spread between long and short rates is attributable to inflation expectations. Over the past six weeks, the yield curve has gotten steeper, with 30-year rates rising from 5.02% on November 2 to 5.54% on December 14.

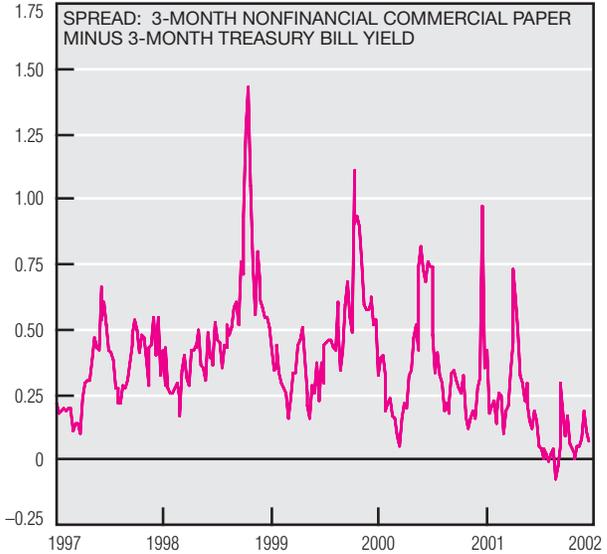
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Money and Financial Markets (cont.)

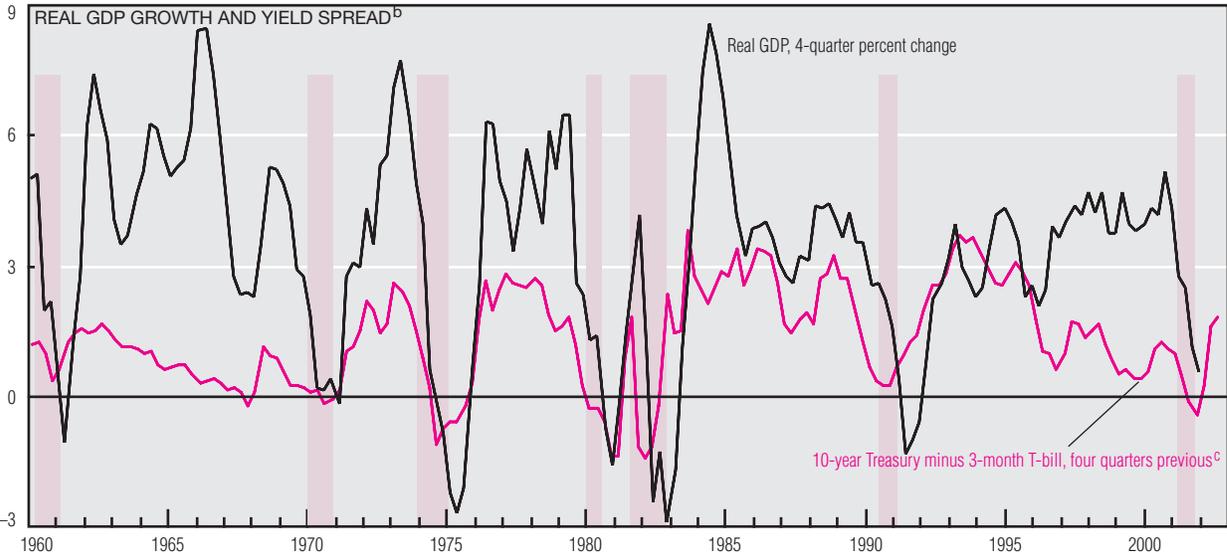
Percent, weekly average



Percent



Percent



a. Three-month eurodollar minus 3-month constant maturity T-bill yield.

b. Shaded areas mark NBER-defined recessions.

c. Ten-year constant maturity Treasury minus 3-month, second-market T-bill yield.

SOURCES: U.S. Department of Commerce, Bureau of Economic Analysis; Board of Governors of the Federal Reserve System, *Federal Reserve Statistical Releases*, "Selected Interest Rates," H.15; and National Bureau of Economic Research, Inc.

Monetary policy is also made in the context of the real economy of recessions and recoveries. Do the financial markets provide any hint of what is to come? Two traditional measures of risk, at least, show smoother sailing ahead. The Treasury-to-eurodollar (TED) spread measures the difference between the rate on eurodollar deposits and Treasury notes. It is thought to reflect traders' worries about international problems because it is a way to arbitrage rates between the U.S. and the rest of the

world without bearing any currency risk. The spread remains quite low by historical standards. This most likely means that market participants were not spooked by the introduction of the euro, which the TED spread suggested would be less of an event than Y2K.

Another, purely domestic, risk spread, between 3-month commercial paper and the 3-month T-bill, is also low by historical standards, suggesting that credit is readily available to most firms in the commercial

paper market, and no major risks are seen on the horizon.

A final measure of future economic performance, and perhaps the most venerable of the lot, is the spread between 10-year and 3-month Treasuries. The slope of the yield curve tends to predict economic activity four quarters into the future; it has an enviable record of picking up recessions when it inverts (goes negative). It is predicting robust growth for 2002.