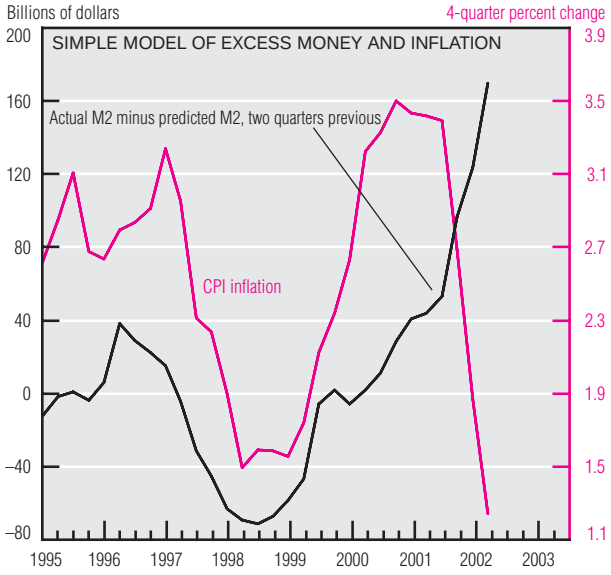
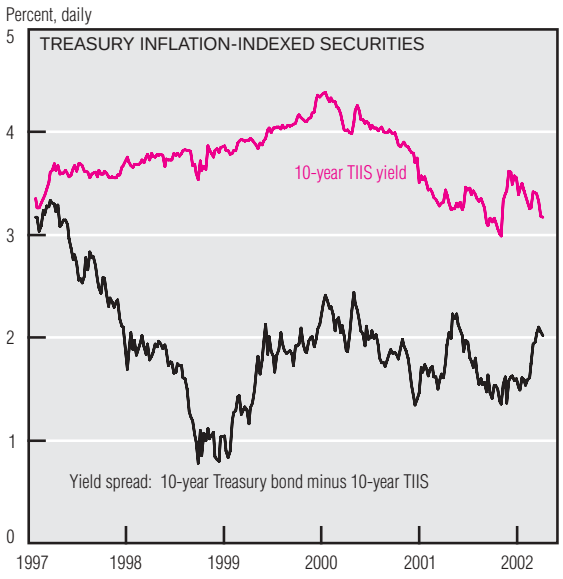
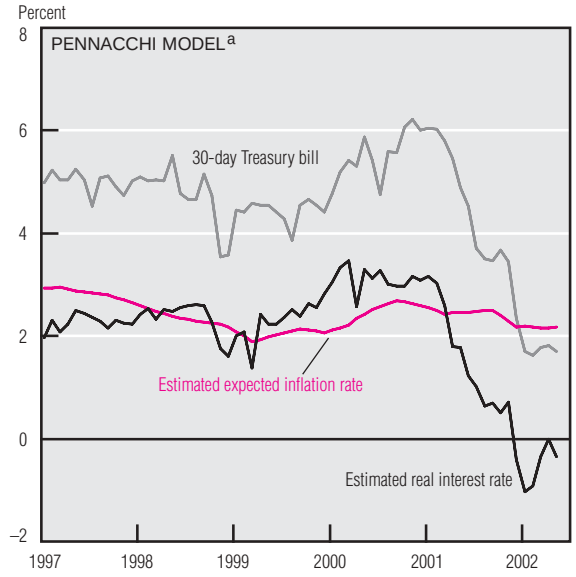
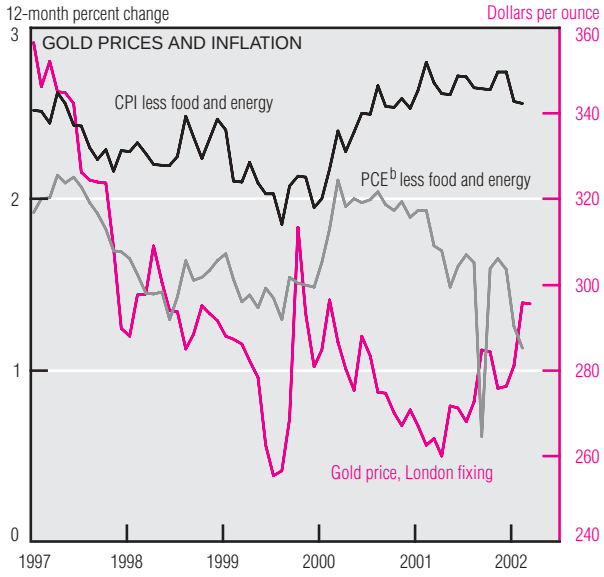
Money and Financial Markets









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.

b. Personal consumption expenditures.

SOURCES: U.S. Department of Commerce, Bureau of Labor Statistics and Bureau of Economic Analysis; Federal Reserve Bank of Cleveland; Bloomberg Financial Information Services; and the *Wall Street Journal*.

Because price stability is a long-run goal of the Federal Reserve System, monetary policy's effect on inflation is always a major concern. One way to gauge the effect is to return to the classic definition of inflation: too much money chasing too few goods. This notion is illustrated by a simple model that compares the amount of money in circulation with the usual amount demanded at current interest rates and output. While it generally predicts the direction of inflation throughout the mid- to late 1990s, it misses badly on the recent drop.

Financial markets provide several additional ways to extract expectations. One uses the difference between the yields on a nominal 10-year Treasury bond and the yield on a Treasury inflation-indexed security of similar maturity, although tax and liquidity differences distort the signal. By this measure, inflationary expectations have increased nearly half a percentage point in 2002. Another model that combines shorter maturity securities with survey measures of inflation, however, shows little change in expectations, which continue to come in a little above 2%. This model's estimate of the real rate of interest gives further evidence of how far that rate has dropped over the past year.

The price of gold, a classic measure of inflation, has risen substantially in 2002. Even ignoring the flight-to-quality effect of the Y2K problem,

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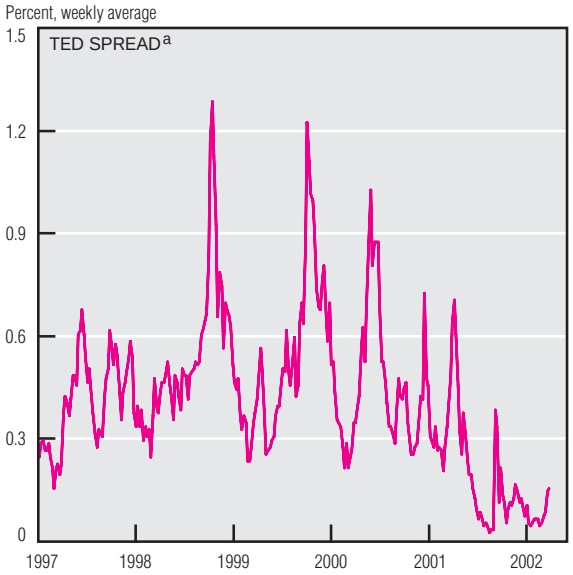

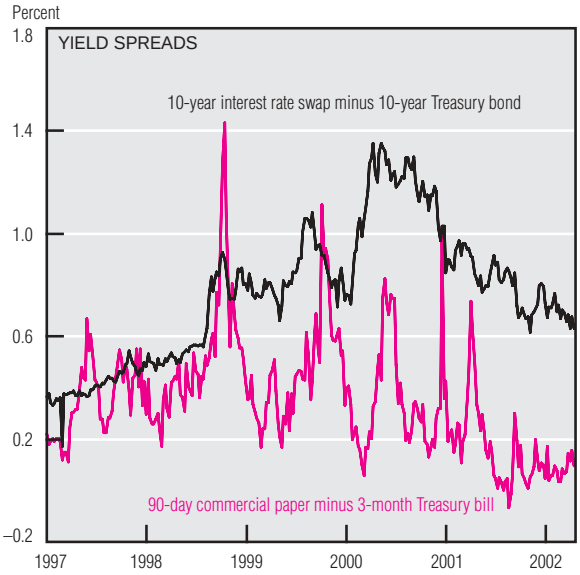

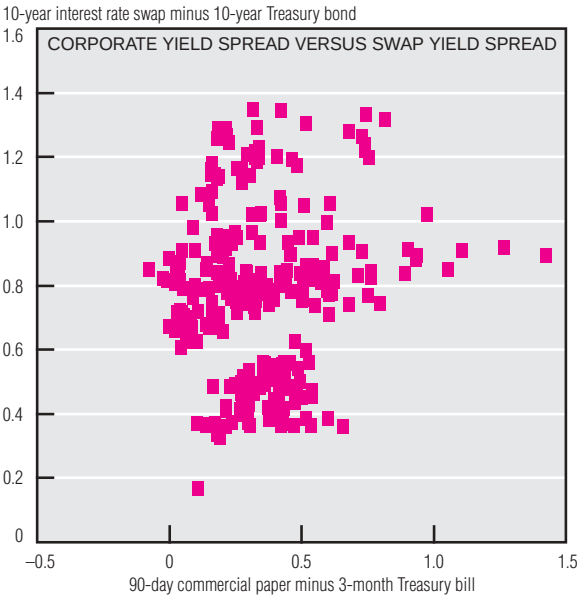

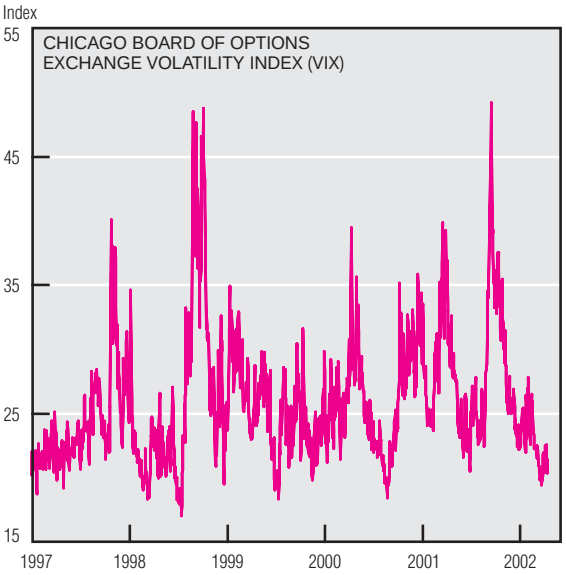

a. Yield spread: 3-month euro minus 3-month constant maturity Treasury bill.
SOURCES: Board of Governors of the Federal Reserve System, *Federal Reserve Statistical Releases*, "Selected Interest Rates," H.15; Chicago Board of Options Exchange; and Bloomberg Financial Information Services.

gold's recent record in tracking inflation is less than glittering.

Financial markets can also illuminate the real side of the economy. Just as the spread between nominal and real rates tells us about inflation, spreads between safe and risky rates reflect risk and uncertainty in the economy. The spread between 3-month Treasury bills and 3-month euro rates (the TED spread) is the difference between dollar-denominated instruments in the U.S. and abroad. It picks up international concerns without distortion from exchange rate movements. Despite a coup in Venezuela and wars in Afghanistan and the Middle East, the TED spread remains low. So do two purely domestic spreads at different maturities: 10-year interest rate swaps minus 10-year Treasury bonds, and 90-day commercial paper minus 3-month Treasury bills. In fact, the 10-year spread is dropping to levels last seen before the upheavals of 1998 (the Russian default and the Long Term Capital Management debacle). The two spreads—both measuring risk but at different maturities—seem to give disparate signals. The 10-year spread lacks the sharp peaks of the 3-month spread, and a scatter plot shows wide variation.

Another approach is to examine volatility, that is, how much a price is expected to move around. Just looking at past movements, however, may not capture market sentiment about future moves. One way to get forward-looking measures is to examine option contracts, which are

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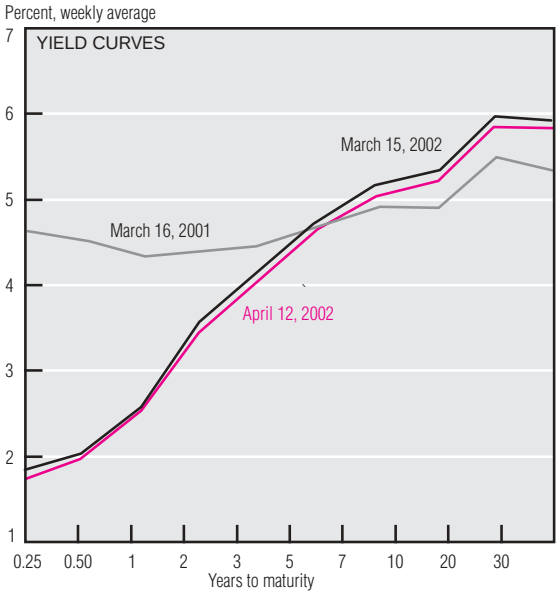

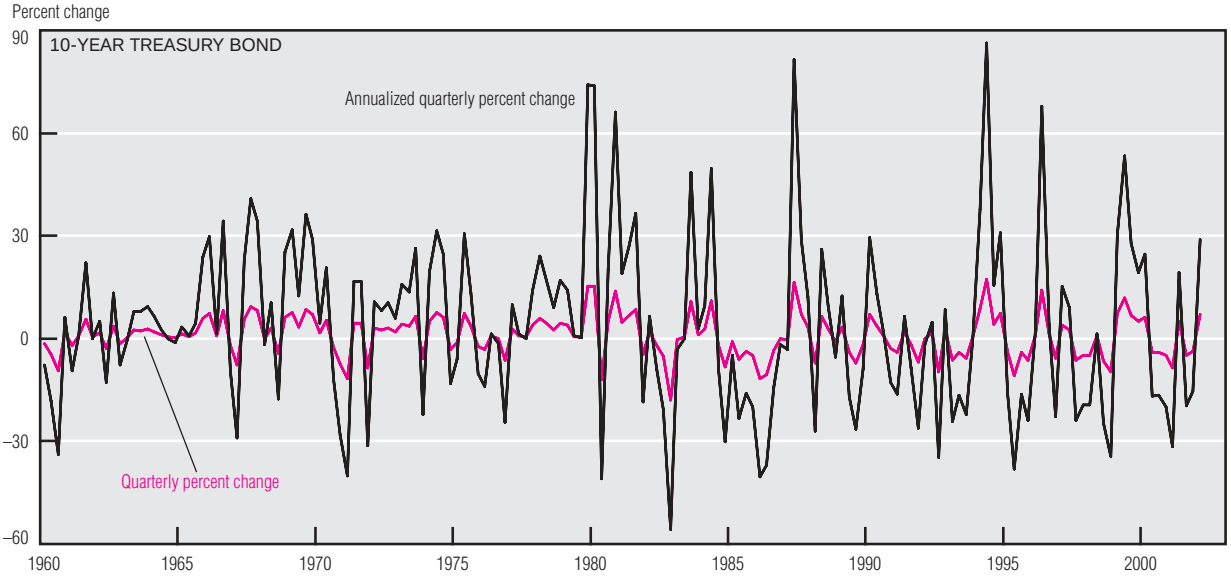

NOTE: All data are constant maturity.
SOURCE: Board of Governors of the Federal Reserve System, *Federal Reserve Statistical Releases*, "Selected Interest Rates," H.15.

particularly sensitive to volatility. The volatility index (VIX), which measures the implied volatility of the Chicago Board of Options Exchange's option contract on the S&P 100 index, remains low.

A classic measure of real economic activity is the term spread between 10-year and 3-month Treasury securities. It is at historically high levels, generally a sign of strong growth over the next four quarters. It reflects the yield curve's general steepening, whose proximate cause is the large drop in short rates. Long rates have crept up, but the small amount suggests that inflation fears have been kept in check.

One problem with looking at interest rates is that the level of rates can make changes less comparable. Higher inflation levels, which lead to higher interest rates, compound this problem. Most likely, an interest rate move from 1% to 2% is more significant than a move from 13% to 14%. One way to correct for this is to express interest rate changes as percentages—so the previous examples translate to increases of 50% and 7%. From this perspective, four increases and two decreases particularly stand out. Many of these occurred during the "monetarist experiment" (1979–82) of the Volcker years, when the Federal Open Market Committee concentrated on the money supply. The spike in 1987:IIQ probably reflects inflation fears associated with a weakening dollar, and that in 1996:IIQ reflects unexpectedly strong real growth.