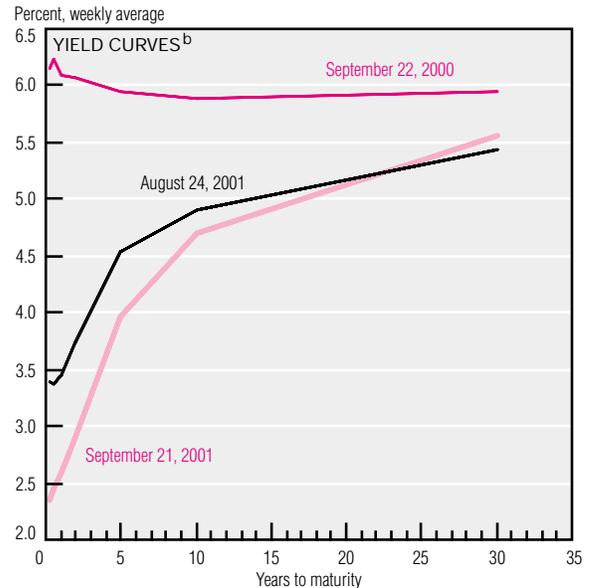
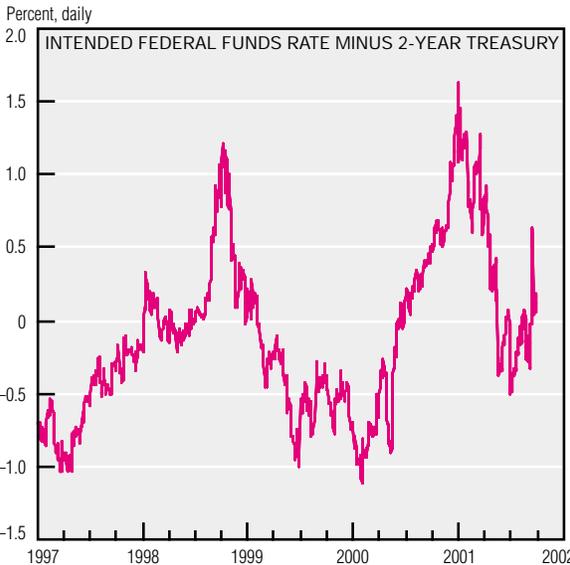
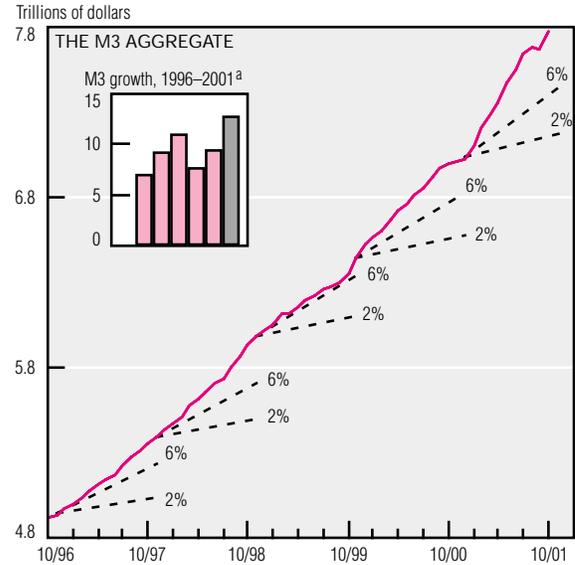
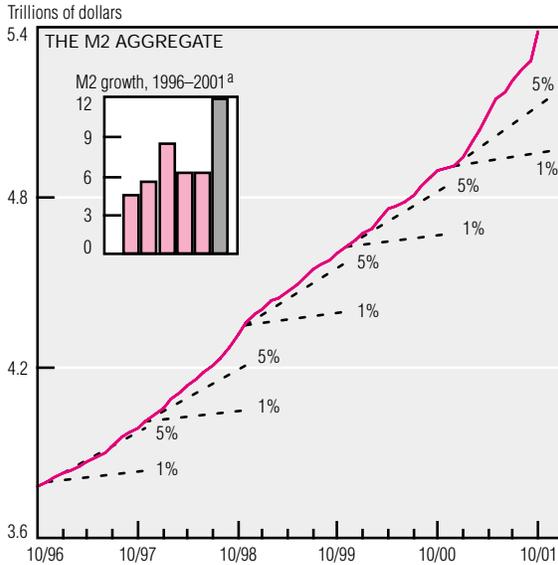


Money and Financial Markets



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 an estimated September over 2000:IVQ basis. Data are seasonally adjusted.
 b. Constant maturity.
 NOTE: Last plots for M2 and M3 are estimated for September 2001. Prior to November 2000, dotted lines for are FOMC-determined provisional ranges. Subsequent dotted lines represent growth rates and are for reference only.
 SOURCE: Board of Governors of the Federal Reserve System.

At least since Walter Bagehot's day in the late 1800s, the classic advice to central banks in real or incipient financial crises has been to "lend freely"—in modern parlance, to supply liquidity. After the events of September 11, the Federal Reserve, already providing a fair amount of liquidity in the face of a slowing economy, redoubled its efforts. A growing demand for liquidity was apparent in the money-supply numbers, which showed large gains in

September: M2 increased at an annual rate of 12.0%, and the broader M3 aggregate increased at an annual rate of 12.84%.

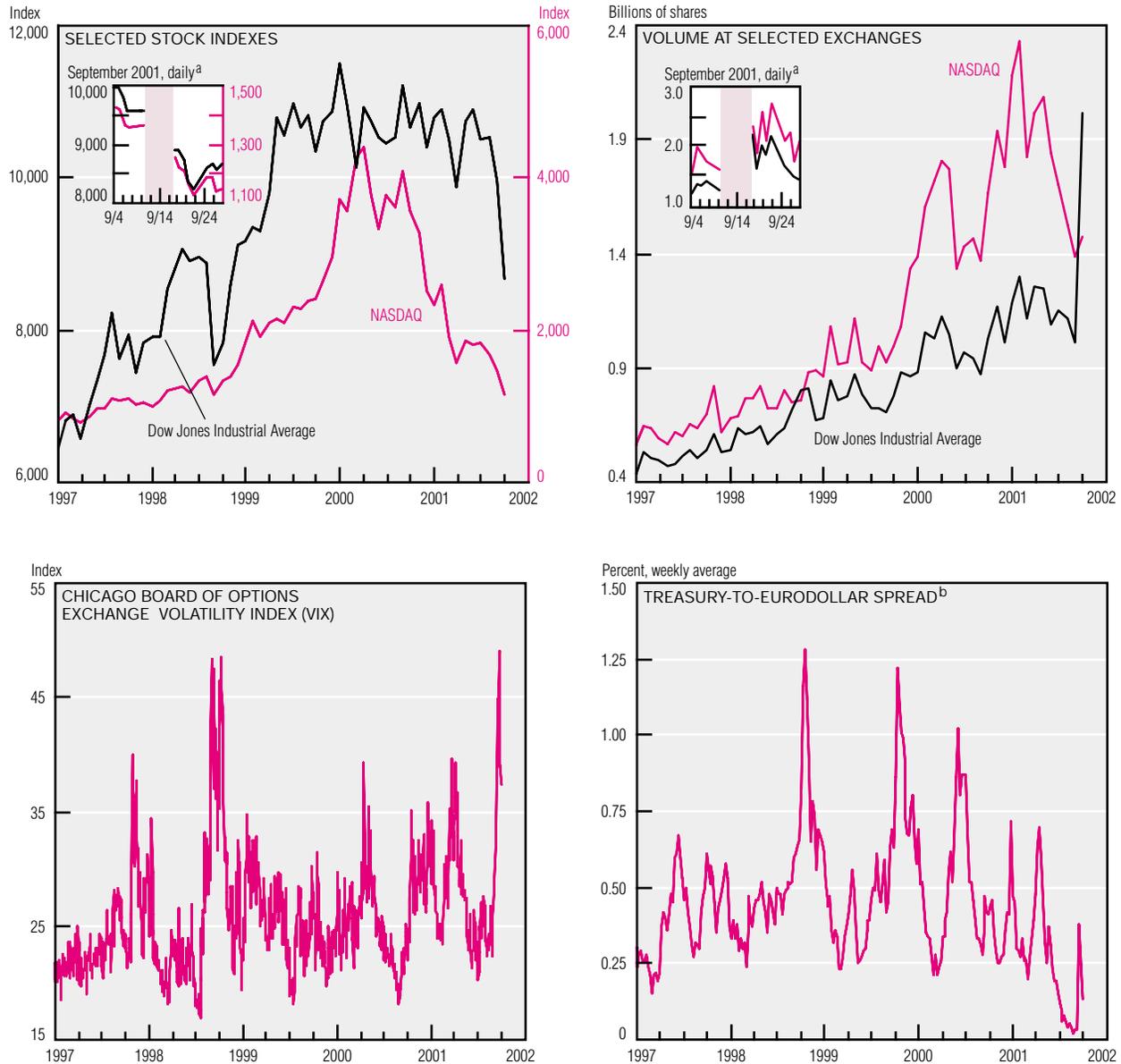
The spread between the intended federal funds rate and the 2-year Treasury yield suggests that the increases mainly went toward meeting the growing demand for liquidity and were not seen as a more extensive easing. This spread, which has dropped more than 150 basis points (bp) in 2001 as the Fed has lowered

rates, rose only slightly—from -3 bp on September 10 to +19 bp on September 19—but not because interest rates did not move.

The yield curve steepened sharply, as short yields dropped. The 10-year, 3-month spread increased from 150 bp for the week of August 24 to 235 bp for the week of September 21 (its historical average is 120 bp). The yield on the 30-year bond increased, which some view as an indication of heightened inflation fears (although

(continued on next page)

Money and Financial Markets (cont.)



a. Shaded area indicates period when trading was suspended.

b. 3-month eurodollar minus 3-month constant maturity T-bill yield.

SOURCES: Board of Governors of the Federal Reserve System; Chicago Board of Options Exchange; and Bloomberg Financial Information Services.

long rates are lower than they were a year ago); however, it also may mark a decline in the specialness of long bonds as deficits become more likely.

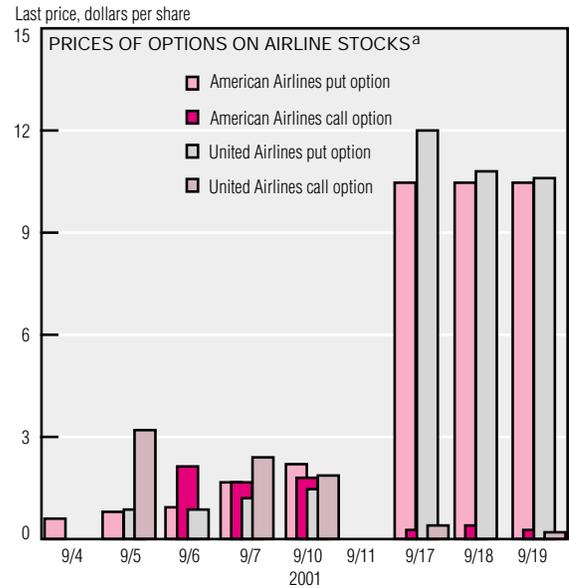
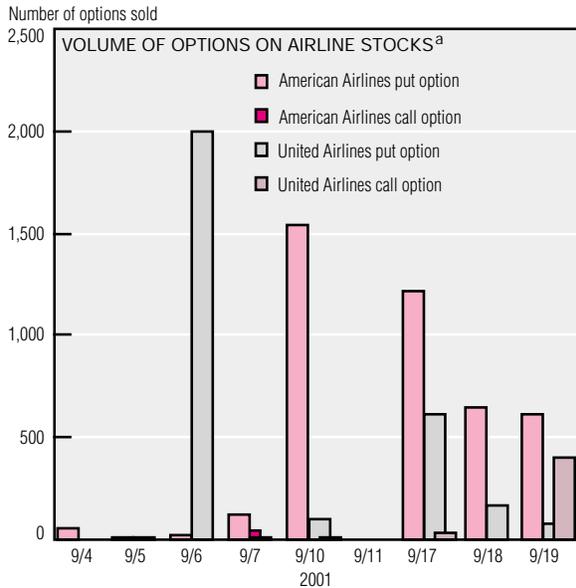
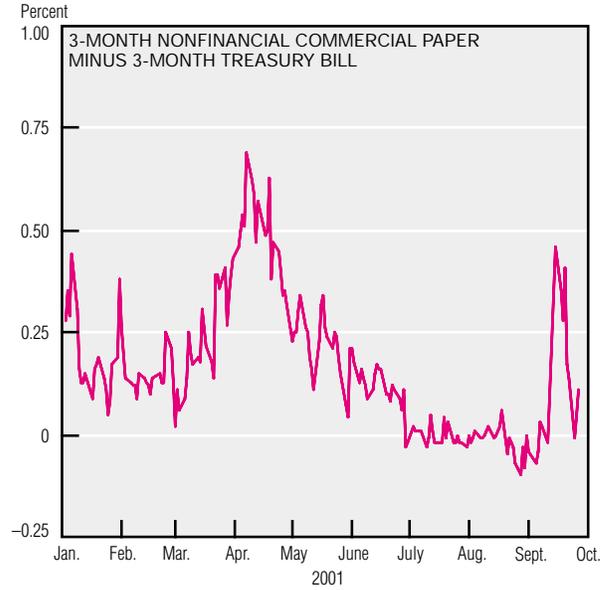
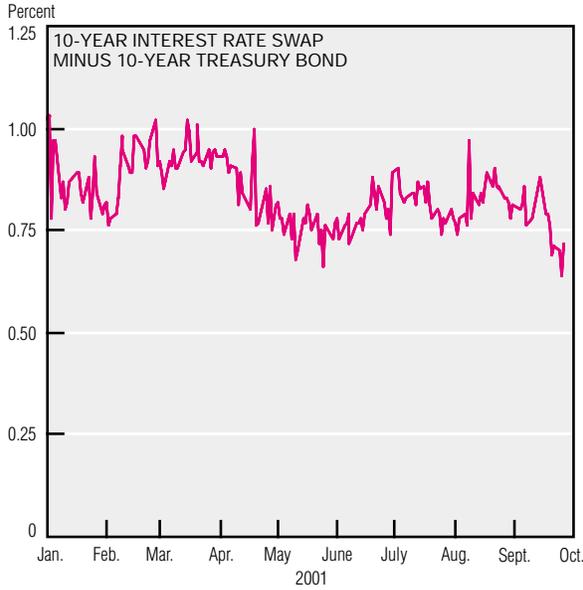
The increased liquidity did not mean that financial markets had an uneventful month. Once trading resumed, stock market indexes fell precipitously on very high volume, possibly because of heightened uncertainty. One indicator of this, the VIX, measures the volatility implied by the Chicago Board of Options

Exchange's option contract on the S&P 100. Perhaps surprisingly, the spike in volatility was not an immediate reaction to the events of September 11. Between September 10 and September 17 (when trading resumed), the VIX jumped only six points. Larger increases (including a daily high of 53) came later in the week, reaching levels last seen during the Russian default and the Long Term Capital Management debacle of 1998. The VIX has since decreased.

Another measure of risk is the Treasury-to-eurodollar spread, the difference between interest rates paid by European banks on dollar-denominated deposits and the yield on Treasury bills. This indicator does not share in exchange rate risk and frequently increases in uncertain times. What is more surprising, though, is that even considering the attack on the U.S., the spread of rates that European banks must pay above what the Treasury pays still increased,

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Money and Financial Markets (cont.)



a. American options expiring October 20, 2001, with a strike price of \$30 per share. Options are traded on the Chicago Board of Options Exchange. SOURCES: Board of Governors of the Federal Reserve System, "Selected Interest Rates," *Federal Reserve Statistical Releases*, H.15; Chicago Board of Options Exchange; and Bloomberg Financial Information Services.

implying that investors continue to see the U.S. as a safe haven.

Other risk measures showed mixed responses. One measure at the long end, the spread between yields on 10-year swaps and 10-year Treasury bonds, ticked up a mere 10 bp and has since returned to levels below those of early September. The risk spread between 3-month commercial paper and 3-month T-bills showed a spike, but it, too, is back to early-September levels.

Commentators often remark on the extent to which financial markets are forward looking: Buying securities is all about future payoffs. This is especially true of options, which give the holder the right (but not the obligation) to buy or sell a stock at a pre-specified price. A put option ("put" for short) gives the holder the right to sell the stock at the strike price. In the week before September 11, trading of put options on the parent companies of United

and American Airlines increased dramatically. Because trading in stock options is often sporadic, it is difficult to tell how extraordinary such trades were. Authorities are considering the possibility that they were not caused by a hedge fund's pessimism about airline stocks or an investment bank hedging its exposure, but by someone with foreknowledge who was seeking to profit from the tragedy.