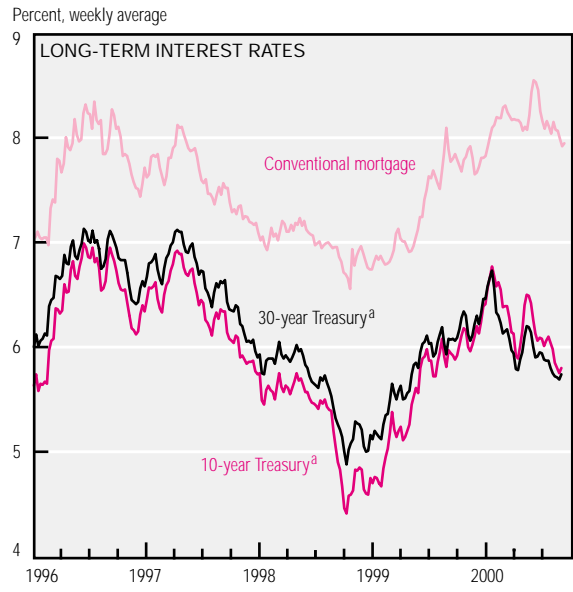
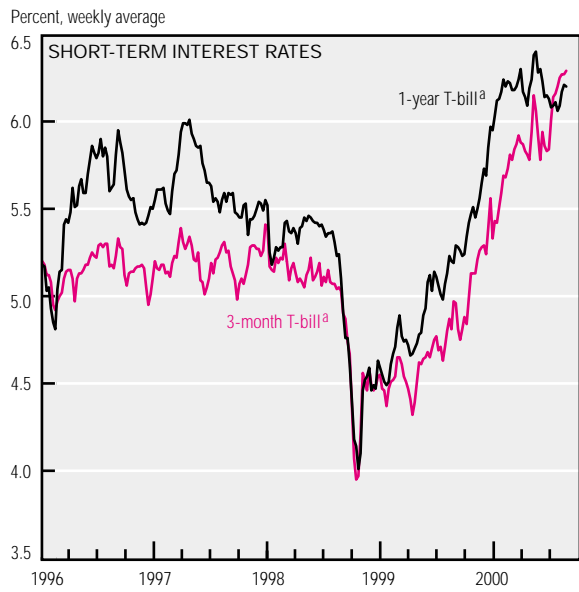
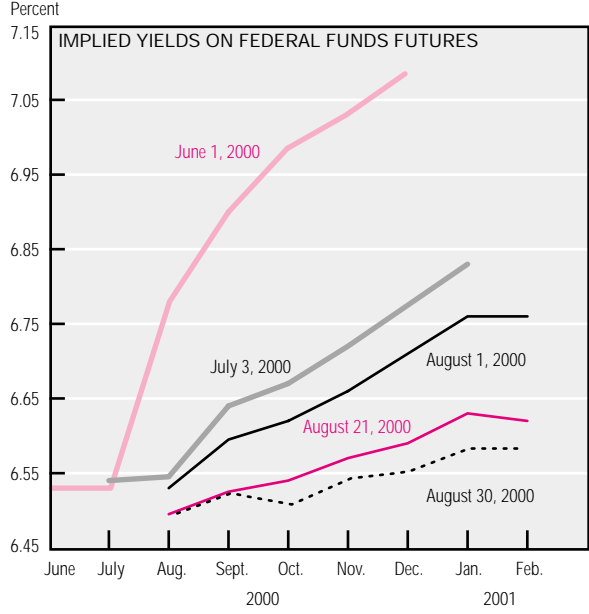
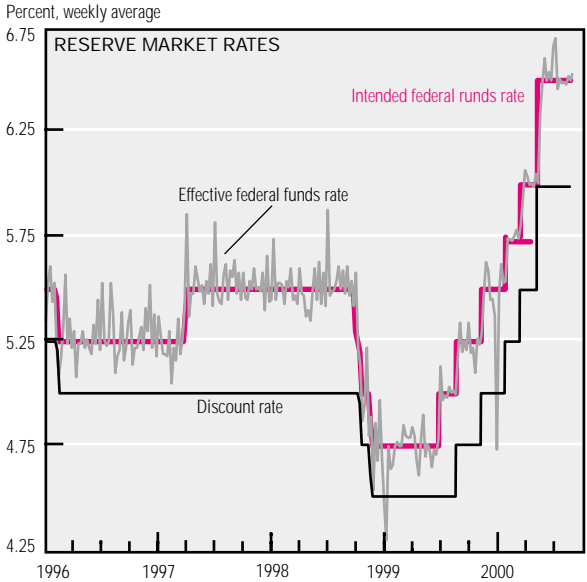


Monetary Policy



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

At its August 22 meeting, the Federal Open Market Committee (FOMC) left the intended federal funds rate unchanged at 6.5%. Citing “rapid advances in productivity” and signs of moderating demand, the FOMC has maintained the stance of monetary policy at its two most recent meetings. Previously, the Committee had increased the target rate 150 basis points (bp) in a series of five movements (75 bp of which arguably can be described as “taking back” cuts associated with the Russian default); the series

culminated in a 50 bp increase at the May meeting.

Economists often turn to the federal funds futures market to approximate expectations for the future path of monetary policy. This measure reveals that the FOMC’s decision was not unanticipated; in fact, market participants had assigned a low probability to an August increase in early July. Further, the implied yield curve on fed funds futures drifted down and flattened out in August, suggesting at month’s end that most market

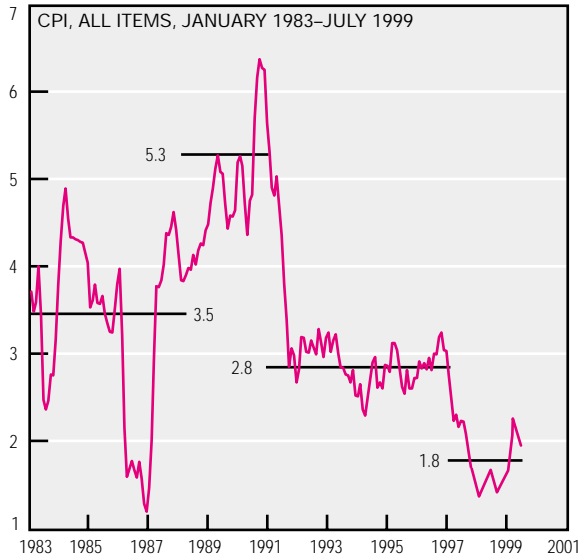
participants do not anticipate rate increases at any of this year’s three remaining FOMC meetings.

Yield curve inversions, which occur when securities of longer maturity yield less than similar short-term securities, persist at both the short and the long end of the U.S. Treasury yield curve. As of September 1, the 1-year T-bill yield (6.23%) was 8 bp less than the 3-month T-bill (6.31%). Similarly, the 30-year Treasury bond (5.71%) yielded 5 bp less than the 10-year Treasury (5.76%).

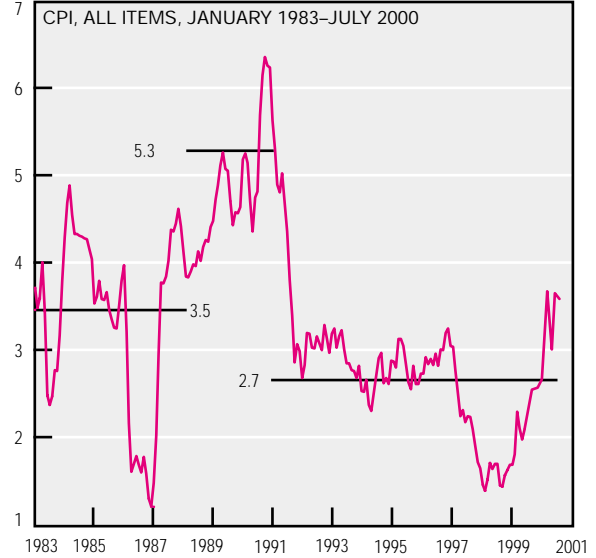
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Monetary Policy (cont.)

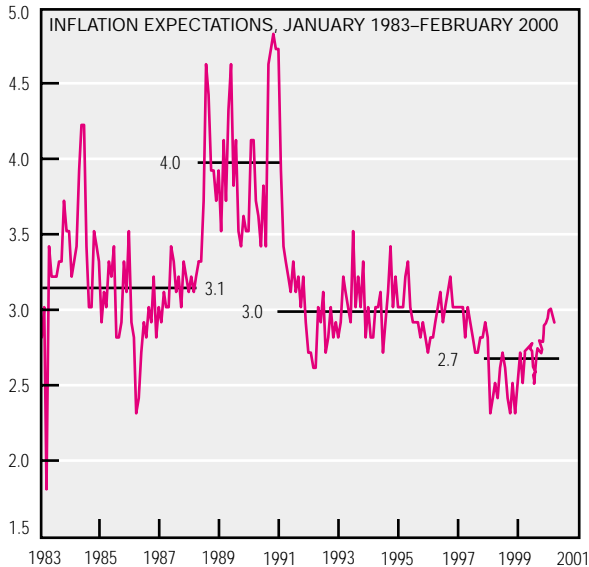
Percent change, year over year



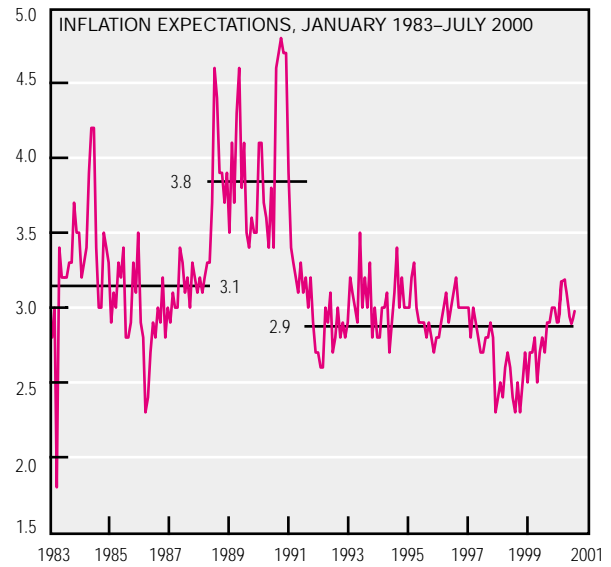
Percent change, year over year



Percent change, year over year



Percent change, year over year



a. Median expected change in consumer prices one year ahead as measured by the University of Michigan's *Survey of Consumers*.

NOTE: Horizontal lines indicate statistically different trends (significant at the 5% level), estimated using an algorithm developed by Bai and Perron.

SOURCES: U.S. Department of Labor, Bureau of Labor Statistics; University of Michigan; Jushan Bai and Pierre Perron, "Estimating and Testing Linear Models with Multiple Structural Changes," *Econometrica*, vol. 66, no. 1 (January 1998), pp. 47–78; and Jushan Bai and Pierre Perron, "Computation and Analysis of Multiple Structural Change Models," unpublished, Boston University, 2000.

Inflation experience in the 1990s was favorable in comparison with the previous decade. The inflation rate—as measured by the CPI—was both lower and less variable than in the 1980s. With the outcome of the Gulf War decided in early 1991, concerns about the stability of the oil supply abated; both inflation and expectations of future inflation dropped precipitously. Some analysts at that time identified the disinflation as evidence that a deliberative, credible monetary policy had successfully avoided repeating mistakes made in the 1970s, when

unfavorable surges in oil prices resulted in permanent increases in inflation. In the parlance of monetary policy, the FOMC did not accommodate such a rise in inflation in the latter period.

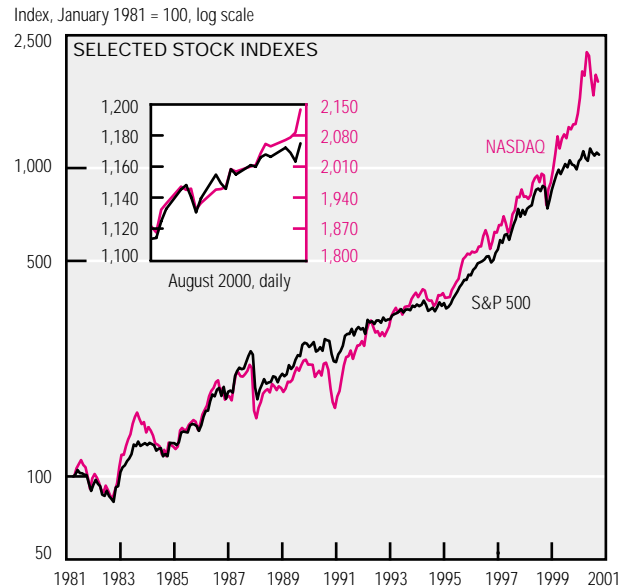
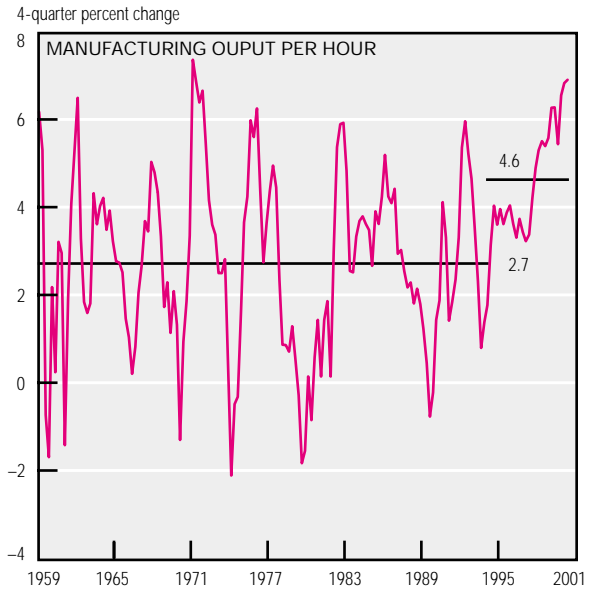
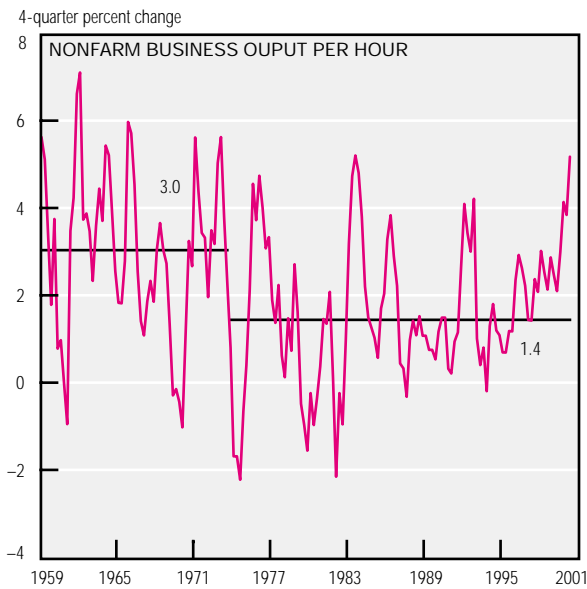
Nor did monetary policy accommodate temporarily low oil prices. In the 1980s, oil prices dropped substantially and stayed low for more than a year before rebounding sharply. The transitory fall in CPI inflation in 1986 reflected favorable oil prices around that time. Similarly, CPI inflation dipped in the late 1990s. Formal breakpoint-test analy-

sis reveals that unlike the transitory dip in oil prices in the 1980s, the recent one was associated with a "permanent" downward break in CPI inflation, first perceived in late 1998 and persisting until July of last year. Moreover, a similar downward break was found in inflation expectations, which also appeared evident until recently, when additional data failed to confirm a continuing break.

Although the recent dip was related to a transitory decline in oil prices, other factors were also important. The Asian crises in 1997 and the Russian default in 1998

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Monetary Policy (cont.)



NOTE: Horizontal lines for nonfarm business and manufacturing output per hour indicate statistically different trends (significant at the 5% level), estimated using an algorithm developed by Bai and Perron. Horizontal lines for the S&P price-to-earnings ratio are averages calculated over the same periods for which statistically significant trends were found in manufacturing output per hour.

SOURCES: U.S. Department of Labor, Bureau of Labor Statistics; Haver Analytics; Bloomberg Financial Information Services; Jushan Bai and Pierre Perron, "Estimating and Testing Linear Models with Multiple Structural Changes," *Econometrica*, vol. 66, no. 1 (January 1998), pp. 47-78; and Jushan Bai and Pierre Perron, "Computation and Analysis of Multiple Structural Change Models," unpublished, Boston University, 2000.

enhanced the attractiveness of dollar-denominated assets relative to those of the rest of the world. The consequent capital flows strengthened the dollar's value, reducing import prices and putting downward pressure on domestic inflation. Capital flows into the U.S. also supported an investment boom, especially in high-tech equipment, which in turn contributed to acceleration in labor productivity. Higher productivity continues to dampen inflationary pressures, containing

inflation's rebound despite the recent doubling of oil prices.

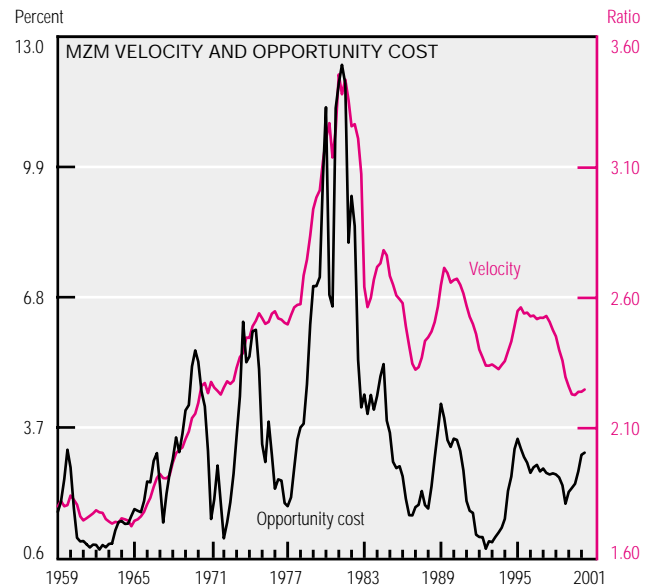
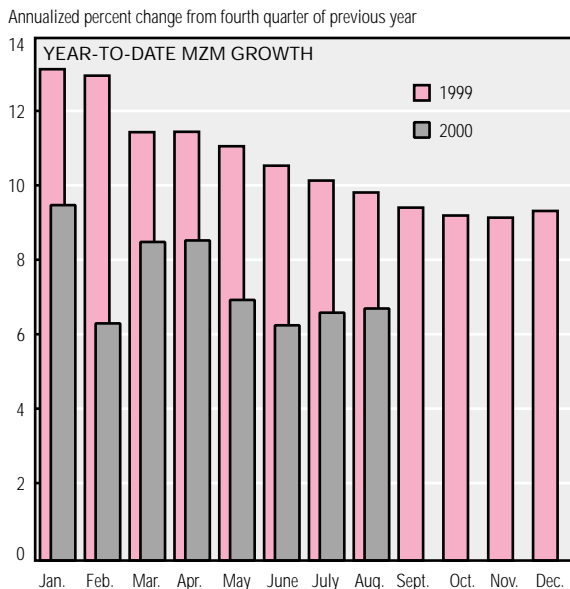
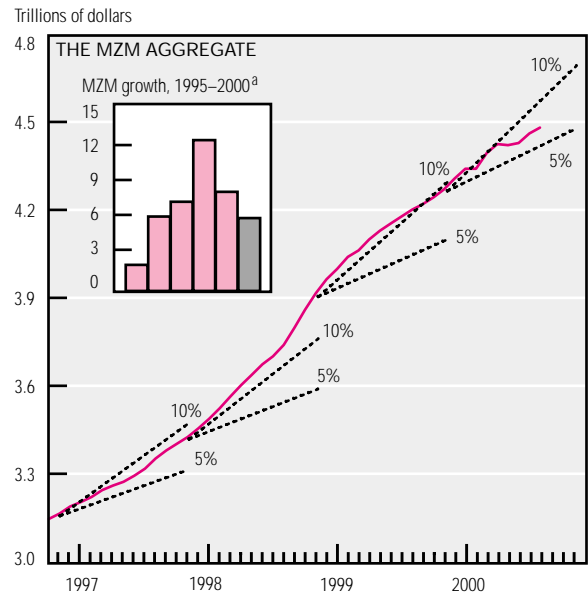
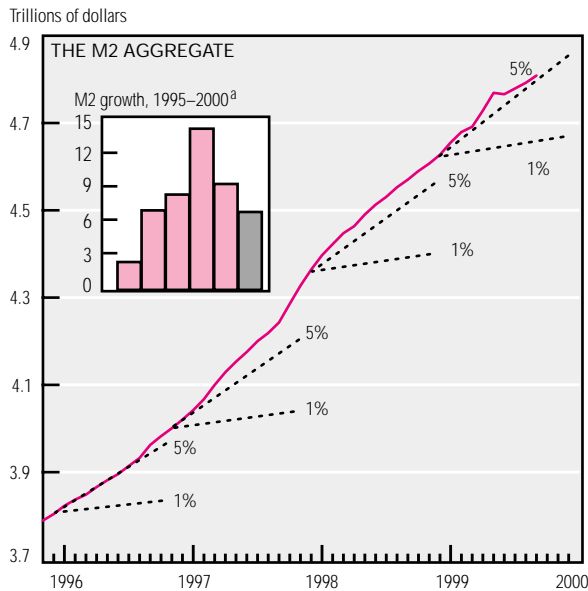
Labor productivity growth was consistently higher in the late 1990s, but some formal breakpoint tests fail to confirm a permanent upward break in the nonfarm business sector. The same tests do identify the widely known downward break around 1973. More significantly, however, a clear upward break is found in the manufacturing sector's productivity. It is generally recognized that manufacturing productivity is more

accurately measured than that of the broader nonfarm business sector, which includes the hard-to-measure service sector. Moreover, as Federal Reserve Chairman Alan Greenspan recently indicated, the manufacturing sector measure provides little evidence that productivity has stopped accelerating.

The value of a stock market index depends critically on publicly traded firms' potential for future earnings growth. In the aggregate, earnings growth is directly related

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Monetary Policy (cont.)



a. Growth rates are percentage rates calculated on a fourth-quarter over fourth-quarter basis. The 2000 growth rates for M2 and MZM are calculated on an estimated August over 1999:IVQ basis.

NOTE: Data are seasonally adjusted. Last plots for M2 and MZM are estimated for August 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.

to the productive potential of the economy. The 1990s' acceleration in equity prices was concurrent with higher manufacturing productivity growth. The current year's lull in stock prices could portend flattening productivity growth. On the other hand, the market may have gotten ahead of itself.

Analysts concerned about inflationary pressures may find additional comfort in money growth, which is slower this year than in 1999 virtually

across the board, M3 being the notable exception. Estimated through August, year-to-date M2 growth (5.3%) is nearly a full percentage point below the 12 months ending in December 1999 (6.2%). More striking is MZM, which has grown 2.6 percentage points slower this year (6.7% for the year to date estimated through August versus 9.3% through December 1999).

The slowdown in money growth is consistent with rising interest

rates, which usually implies that the opportunity cost of money—the cost of holding it—has increased. MZM opportunity cost is measured as the difference between the 3-month T-bill yield and a share-weighted average of yields on MZM components. Over time, MZM velocity (the level of MZM relative to economic activity) tends to vary directly with its opportunity cost, but with a lag—suggesting that MZM velocity may rise further in the near term.