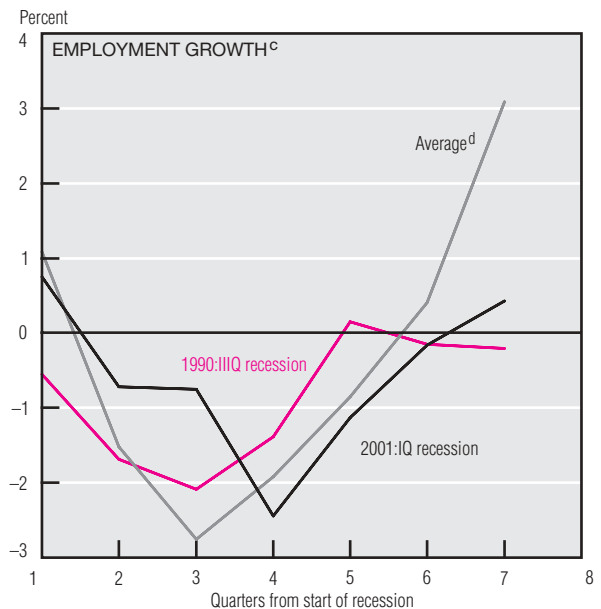
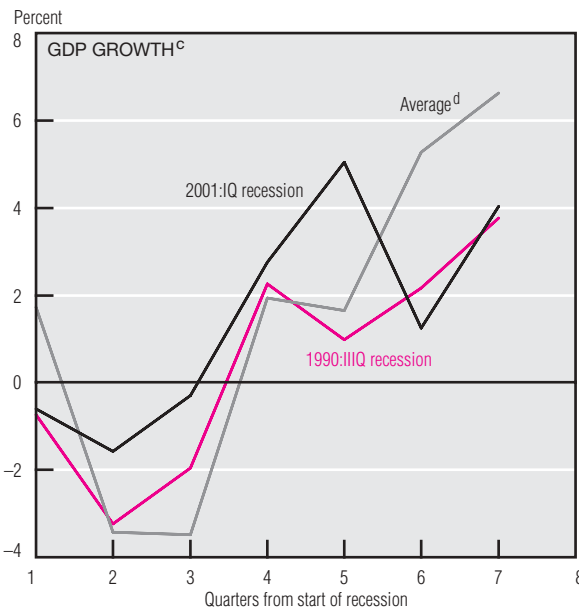
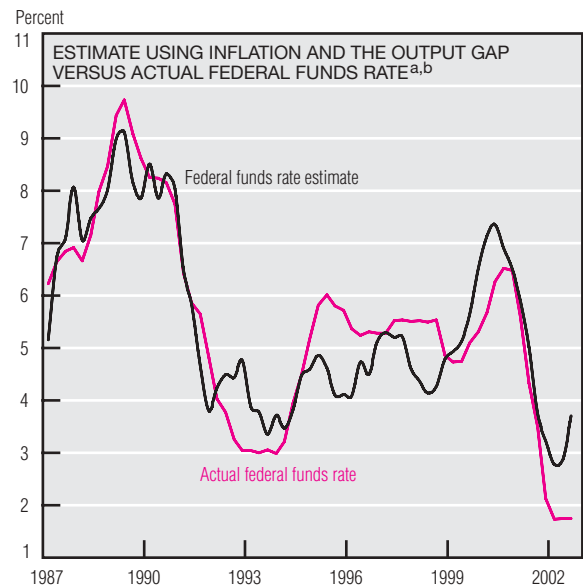
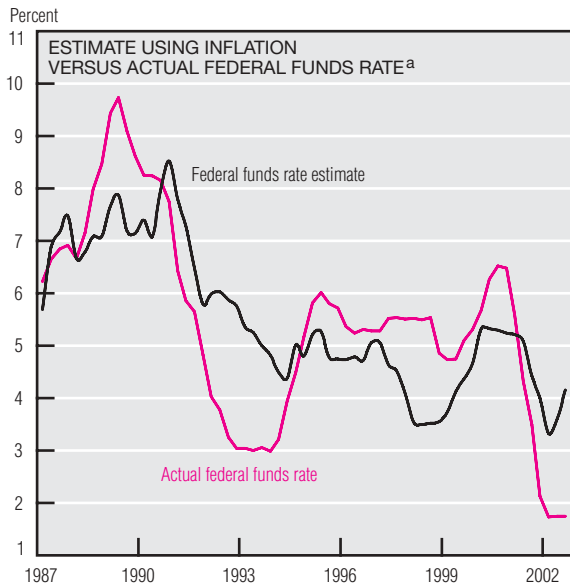


# The Taylor Rule



a. Inflation is from the Personal Consumption Expenditures Chain Price Index.

b. The output gap is calculated from real potential GDP as measured by the Congressional Budget Office, and real GDP from the Bureau of Economic Analysis.

c. Quarterly change, annualized.

d. Recessions in the postwar period.

SOURCES: U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Department of Labor, Bureau of Labor Statistics; Congressional Budget Office; and Board of Governors of the Federal Reserve System, "Selected Interest Rates," *Federal Reserve Statistical Releases*, H.15.

Monetary policy can often be described as a rule or strategy for changing the federal funds rate in response to inflation and other indicators of real economic activity. Obviously, no rule can capture every variable that the Federal Open Market Committee considers in setting the fed funds rate. Nevertheless, a rule that roughly describes past behavior can provide a benchmark for setting policy. An extremely simple rule, in which the central bank responds only to past inflation, tracks movements in the fed funds rate fairly closely, as shown in the upper

left chart, although large misses are not uncommon.

The problem is that the Federal Reserve responds to both inflation and some measure of real economic activity. The Taylor rule posits that the Fed lowers (raises) the funds rate when inflation falls (rises) or real output is lower (higher) than potential output.

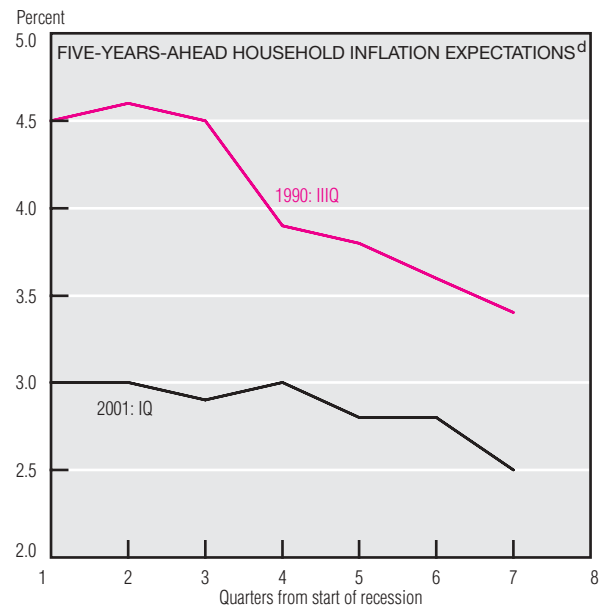
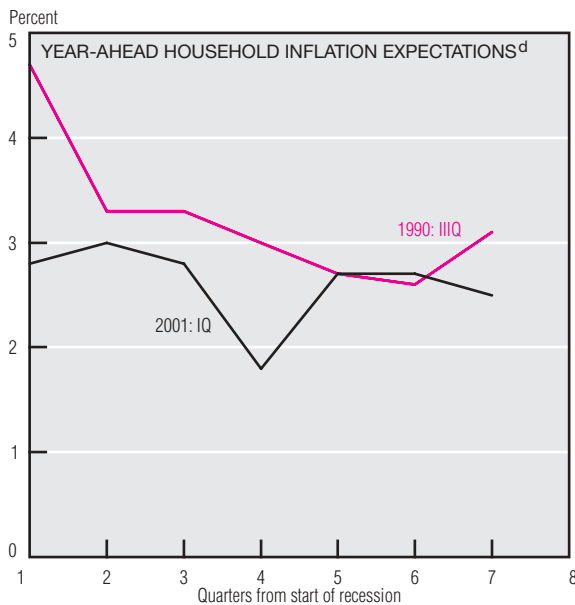
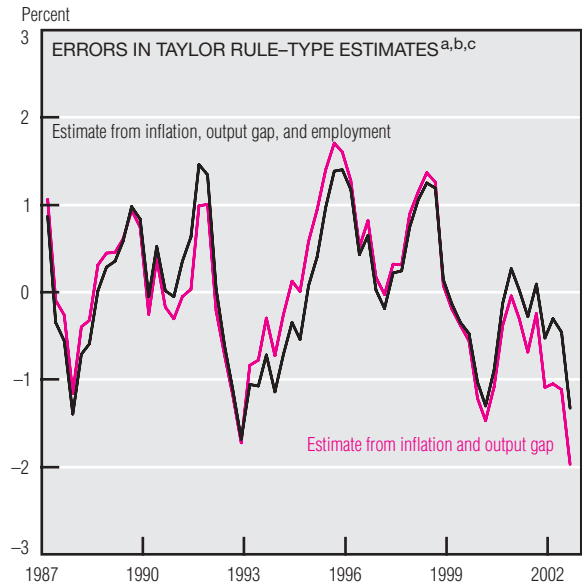
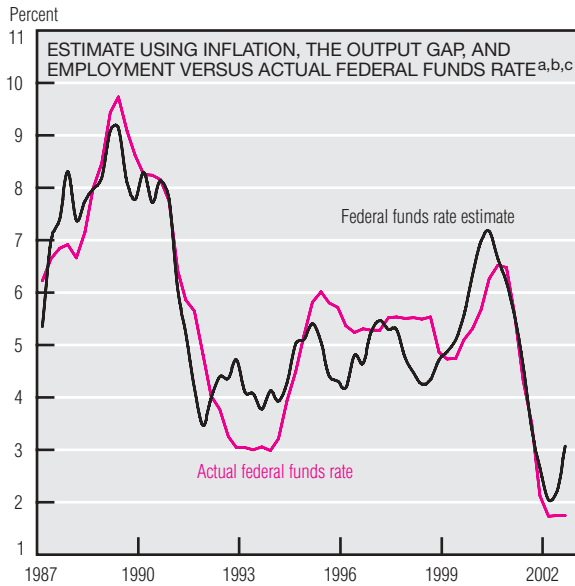
A fairly simple rule, in which the Fed responds to inflation and the output gap, seems to track the funds rate quite closely, as shown in the upper right chart. By this measure, current monetary policy seems relatively easy. On the basis of historical trends, the

Taylor rule would say that the current funds rate should be almost 2% higher than it is.

This large gap suggests that another factor may be important in setting interest rates. The 1992–93 period was another in which the funds rate was significantly below the Taylor rule prediction. The gap appeared at about the same stage of recovery from the recession of 1990:IIIQ as we are from 2001:IQ, which suggests that the two recessions may have a common factor.

(continued on next page)

## The Taylor Rule (cont.)



a. Inflation is from the Personal Consumption Expenditures Chain Price Index.

b. The output gap is calculated from real potential GDP as measured by the Congressional Budget Office, and real GDP from the Bureau of Economic Analysis.

c. Employment is from the Establishment Survey, nonfarm employment.

d. Median expected change in consumer prices as measured by the University of Michigan's Survey of Consumers.

SOURCES: U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Department of Labor, Bureau of Labor Statistics; Congressional Budget Office; Board of Governors of the Federal Reserve System, "Selected Interest Rates," *Federal Reserve Statistical Releases*, H.15; and University of Michigan.

Both the current recession and that of 1990 have had so-called jobless recoveries. Although their GDP growth rates were similar to those in earlier downturns, employment growth stagnated five quarters into the recession. Employment now and during the same phase of the 1990 recession was essentially flat; in earlier recessions, it grew at an average annual rate of almost 3%.

This suggests that employment growth might be another variable that the Fed considers in setting interest rates. Its addition seems important, indicating that the Fed might respond

to inflation, the output gap, and employment growth. In fact, until less than a year ago, the actual and predicted funds rates were virtually identical. Now policy appears to be slightly easier than past experience would have predicted. The discrepancy of almost 2% that now exists between them is reduced to just over 1%.

Despite this improvement, it seems possible that the Fed has not been responding consistently to both the output gap and employment growth. Improvement over the normal Taylor rule was especially dramatic during the current recession, whereas

improvement during the last recession and jobless recovery was slight.

The puzzle of why policy appears relatively easy is even greater when one considers the likelihood that the long-term inflation "target" has changed. Looking five years out, households expect the inflation rate to average 2.5%. At the same phase of the last recovery, inflation expectations were almost a full percentage point higher. A partial solution to the puzzle might be that the Fed is also acting more aggressively in response to inflation's deviations from its "long-term target."