

HW 5 Quiz Answer

1. To assess the effect of the Fed's policy of deregulating interest rates beginning in July 1979, Sidney Langer estimated the following model for the quarterly period of 1975-III to 1983-II

$$\hat{Y}_t = 8.5871 - 0.1328P_t - 0.7102Un_t - 0.2389M_t + 0.6592Y_{t-1} + 2.5831Dum_t$$

$se = (1.9563) \quad (0.0992) \quad (0.1909) \quad (0.0727) \quad (0.1036) \quad (0.7549)$

$$R^2 = 0.9156$$

Where Y = 3-month Treasury bill rate

P = expected rate of inflation

Un = seasonally adjusted unemployment rate

M = changes in the monetary base

Dum = dummy, taking value of 1 for observations beginning July 1, 1979

- a. Interpret the results

Ceteris paribus, if the expected inflation rate goes up by 1 percentage point, the average Treasury bill rate (TB) is expected to go down by about 0.13 percentage point

If the unemployment rate goes up by 1 percentage point, the average TB rate is expected to go down by about 0.71 percentage point.

If the change in the monetary base goes up by a unit, on average, the TB rate is expected to go down, as an increase in the monetary base, via the multiplier effect, leads to an increase in the money supply, which will have the effect of reducing the interest rate, *ceteris paribus*.

The lagged value of Y is positive and statistically significant.

- b. What has been the effect of interest rate deregulation? Do the results make economic sense?

In late 1979 the then Governor of the Federal Reserve System, Paul Volker, changed monetary policy from interest rate targeting to monetary base targeting, the objective being to reduce the comparatively high rate of inflation then prevailing in the US economy. By tightening the monetary base, which leads to increases in the TB rate, the inflation rate was subsequently brought down considerably. Incidentally, note that the dummy coefficient is statistically significant

- c. The coefficients of P_t , Un_t and M_t are negative. Can you offer an economic rationale?

The seasonally adjusted unemployment rate is statistically significant, as its t value is -4.24. It also makes economic sense, as a higher unemployment rate means slowing down of the economy and the Fed would probably reduce the TB rate to revive the economy.

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