14.02: Principles of Macroeconomics, Fall 1999

2 pages

Problem Set 9
Due: Wednesday, December 1

1. Answer **TRUE**, **FALSE** or **UNCERTAIN**. Give a brief explanation for your answer.

   (a) In the long run, monetary policy in a closed economy will have no effect on real output, the real interest rate and real consumption.

   (b) In the long run, fiscal policy in a closed economy will have no effect on real output, the real interest rate and real consumption.

   (c) Given that investors expect a decrease in interest rates:

   - If the decrease is larger than expected, the price of the stock market will increase.
   - If the decrease is smaller than expected, the price of the stock market will still increase but less than expected.
   - If interest rates increase, the price of the stock market will decrease.

   (d) There is no good reason for a country to devalue voluntarily: it will do so only when forced by the lack of foreign reserves.

   (e) High deflation may cause a huge real overvaluation.

   (f) The NAIRU is the unemployment rate at which inflation is zero.

   (g) The aggregate demand relation shows that high prices are associated with high unemployment. Therefore, this equation leads naturally to the Phillips curve.

   (h) Once people learn the 'right way' to form price expectations, the Phillips relation no longer exists.

   (i) There are different policies that can affect unemployment in the short run, but there is no way to affect the natural rate of unemployment.

   (j) A country can produce an output that is over its natural level by making sure that workers will receive a higher real wage than they were expecting.

   (k) A permanent increase in money growth increases interest rates in the long run.

2. Suppose that the Phillips curve in an economy is given by the equation

$$\pi_t - \pi_t^e = 0.18 - 3u_t,$$

where

$$\pi_t^e = \theta\pi_{t-1} + (1-\theta)\pi_t.$$

Further, suppose that in period $t-1$, the unemployment rate is equal to the natural rate, and the inflation rate is 0 percent.

(a) What is the natural rate of unemployment in this economy?

(b) Suppose that, beginning in period t, the authorities bring the unemployment down to 5% and keep it there indefinitely. Determine the inflation rate in periods, $t, t+1, t+2, t+3$ when $\theta = 0$ and when $\theta = 1$

(c) For which of the two values of θ does $u_t < u_n$, imply an acceleration of the price level (a continually increasing rate of inflation)?

(d) For what values of θ do you obtain the Phillips relation? Why not in the other cases?

3. Analyze the following propositions (These are to make you think. They will not be graded and you do not have to turn them in. We will discuss them in recitations.)

   (a) In an open economy, there are no 'long run' problems with an expansionary fiscal policy. The reason is that the real interest rate will eventually be the same as international interest rates and therefore this policy will not affect investment (i.e. no crowding out).

   (b) A country can always commit to a fixed exchange rate when people expect a revaluation. Moreover, in this case there are no good reasons to make this country consider a change in the peg.