Econ 305–Fall 2007
Problem Set 4
Posted: November 21
Due: November 28 IN CLASS

1 Question 1

Assume that an economy is described by the IS curve $Y = 3600 + 3G - 2T - 150r$ and the LM curve $Y = 2\frac{M}{P} + 100r$ [or $r = 0.01Y - 0.02\frac{M}{P}$]. The investment function for this economy is $1000 - 50r$. The consumption function is $C = 200 + \frac{2}{3}(Y - T)$. Long-run equilibrium output for this economy is 4000. The price level is 1 and $M = 1200$.

(a) Assume that government spending is fixed at 1200. The government wants to achieve a level of investment equal to 900 and also achieve $Y = 4000$. What level of r is needed for $I = 900$? What levels of T and M must be set to achieve these goals? What will be the levels of private saving, public saving, and national saving?

(b) Now assume that the government wants to cut taxes to 1000. With G set at 1200, what will the interest rate be at $Y = 4000$? What must be the value of M? What will I be? What will be the levels of private saving, public saving, and national saving?

(c) Which set of policies may be referred to as tight fiscal, loose money? Which set of policies may be referred to as loose fiscal, tight money? Which "policy mix" most encourages investment?

2 Question 2

Use the IS-LM model to illustrate graphically the impact on output and interest rate of a one-time increase in the price level due to a large increase in oil prices. Be sure to label: the axes, the curves, the initial equilibrium values, the direction the curves shift, and the terminal equilibrium values.

3 Question 3

If the IS curve is given by $Y = 1700 - 100r$ and the LM curve is given by $Y = 500 + 100r$, what are the equilibrium values of income and interest rate?

4 Question 4

Assume that an economy operates according to the sticky-wage model. The nominal wage was set to make labor supply and labor demand equal when the expected price level equaled 120 (as measured by the CPI).

(a) Use a graph of the labor market to illustrate what happens to the quantity of labor employed if the actual price level over the time period when wages are stuck equals 110.

(b) Use a graph of the production function to illustrate how the quantity of output produced changes if the actual price level equals 110 when the expected price level is 120.

(c) Given the unexpectedly low price level, will this economy be operating above, below, or at its natural rate?