
14.02 Principles of Macroeconomics

Spring 06

Quiz 3

Tuesday May 23, 2006

9:00 am - 10:30 am

Please answer the following questions. Write your answers directly on the quiz. There are 5 True/False/Uncertain questions, followed by 2 long questions. The quiz is for a total of 90 points. Keep the point distribution in mind as you allocate your time across the questions. There is a blank page at the end of the quiz to be used for scratch paper. Good luck!

NAME: _____

MIT ID NUMBER: _____

TA: _____

CLASS TIME: _____

EMAIL: _____

(Table is for corrector use only.)

	1	2	3	4	Total
I. T/F/U					
II. LQ 1					
II. LQ 2					
Total					

I. Answer each as True, False, or Uncertain, and explain your choice. (30 points. Each question counts for 6 points.)

1. If individuals are forward-looking, current money demand should depend on both current and expected future nominal interest rates.

2. A monetary expansion always shifts up the LM curve and leaves the IS curve unchanged.

3. A fiscal contraction always reduces output in the short run.

4. Under fixed exchange rates, fiscal policy is more powerful in moving output than it is under flexible exchange rates.

5. The effect of fiscal policy on output is stronger in an open economy with fixed exchange rates than in a closed economy.

II. Long Questions: (60 points)

1. Expectations: (20 points)

Consider the following description of an economy:

$$\begin{aligned} \text{IS:} \quad & Y = A(Y, r, T, Y'^e, r'^e, T'^e) + G \\ \text{LM:} \quad & \frac{M}{P} = YL(r) \end{aligned}$$

There are two periods: the current period (the short run) and the future period (the medium run). Primes denote future period values, and “e” denotes an expectation. For simplicity, assume that current and future inflation, actual and expected, are equal to zero, so the real and the nominal interest rates are equal.

Assume initially that $Y = Y'^e = Y_n = Y'_n$, $r = r'^e = r_n$, $T = G = T'^e = \bar{T}$. In words, output, current and expected, is equal to the natural level of output, which is itself constant. The real interest rate, current and expected, is equal to the natural interest rate – the real interest rate associated with the natural level of output. Taxes, current and expected, are constant, and equal to government spending.

Now suppose that a major technological discovery is made, which leads people and firms to expect a higher natural level for output in the future: Y'_n increases, and so does Y'^e . Assume $r'^e = r'_n$ is unchanged, and so are taxes, current and expected.

- a. What will be the effect on output (Y) and the interest rate (r) in the current period (or in the short run)? Show the result graphically. Explain in words. (10 points)

- b. Suppose you are in charge of monetary policy. What should you do? (Hint: You want to increase the interest rate through a contractionary open market operation. Why?) (10 points)

2. The Mundell-Fleming Model: (40 points)

Consider the following description of an open economy in the short run:

$$\text{IS: } Y = C(Y - T) + I(i, Y) + G + NX(Y^*, Y, E)$$

$$\text{LM: } \frac{M}{P} = YL(i)$$

$$\text{UIP: } E = \frac{(1+i)}{(1+i^*)} \bar{E}^e$$

- a. Characterize graphically the equilibrium, and the equilibrium values of Y, i, E for given values of $T, G, Y^*, \frac{M}{P}, i^*, \bar{E}^e$. (6 points)

Now suppose that investors in the foreign exchange market start expecting a large depreciation of the domestic currency (e.g., the US dollar) in the future.

- b. Characterize graphically the effects on Y, i and E . Explain in words. (10 points)

Assume that initially (before the change in expectations), output was equal to its natural level Y_n .

- c. How can you use monetary policy to keep output unchanged? What are the implications for the interest rate and for the exchange rate? (8 points)

- d. How can you use fiscal policy to keep output unchanged? What are the implications for the interest rate and for the exchange rate? (8 points)

- e. Suppose that there is initially a large trade deficit (e.g., the United States).
Would you want to use fiscal or monetary policy in this case? (8 points)