

### Problem 11-1 (self-study)

- According to the IS-LM model, what happens in the short run to the interest rate, income, consumption, and investment under the following circumstances?
  - a. The central bank increase the money supply
  - b. The government increases government purchases
  - c. The government increases taxes
  - d. The government increases government purchases and taxes by equal amounts

### Problem 11-2

- Use the IS-LM model to predict the effects of each of the following shocks on income, the interest rate, consumption, and investment. In each case, explain what the Fed should do to keep income at its initial level.
  - a. After the invention of a new high-speed computer chip, many firms decide to upgrade their computer systems.
  - b. A wave of credit-card fraud increases the frequency with which people make transactions in cash.
  - c. A best-seller titled *Retire Rich* convinces the public to increase the percentage of their income devoted to saving.

### Problem 11-3

- Consider the economy of Hicksonia. The following data are collected:

$$C = 200 + 0.75(Y - T)$$

$$I = 200 - 25r$$

$$G = T = 100$$

$$(M/P)^d = Y - 10r$$

$$M = 1,000$$

$$P = 2$$

### Problem 11-3

- a. Derive the IS schedule in the form of  $Y = \underline{\hspace{2cm}}$ .
- b. Derive the LM schedule in the form of  $Y = \underline{\hspace{2cm}}$ .
- c. Find the equilibrium interest rate  $r$  and income  $Y$ .
- d. Suppose that the money supply is raised from 1,000 to 1,200. How much does the LM curve shift in the horizontal direction? Obtain the new equilibrium interest rate  $r$  and income  $Y$ .
- e. With the initial value for  $M$ , suppose that the price level rise from 2 to 4. What happens? Obtain the new equilibrium interest rate  $r$  and income  $Y$ .
- f. Derive and graph an equation for the aggregate demand curve. What happens to this AD curve if money supply changes as in (d)?

### Problem 11-4

- True / False? Explain.
- a. If investment does not depend on the interest rate, the IS curve is horizontal.
- b. If the money demand does not depend on the interest rate, the LM curve is vertical.
- c. If the money demand does not depend on income, the LM curve is vertical.
- d. If the money demand is extremely sensitive to the interest rate, the LM curve is vertical.

### Problem 11-6

- Use the IS-LM diagram to describe the short-run and long-run effects of the following changes on national income, the interest rate, the price level, consumption, investment, and real money balance.
- a. An increase in the money supply
- b. An increase in government purchase
- c. An increase in taxes

Answer using the format in the following slide.

### Problem 11-6

Short	Run	Effects
a		
c		

Long	Run	Effects				
	Y	r	P	C	I	M/P
a						
b						
c						

### Problem 11-0 (review)

Discuss each of the following terms or statements.

1. The Pigou effect
2. The debt-deflation theory
3. A decrease in expected inflation (e.g., from 0% to -3%) can make a recession worse. Explain using an IS-LM diagram.
4. In a liquidity trap, conventional monetary policy is powerless to expand the economy. Discuss three possibilities the monetary authority can still maintain effectiveness in times of recession.

### Problem 5-2

- Consider an economy described by the following equations:

$$Y=C+I+G+NX$$

$$Y=5,000$$

$$G=T=1,000$$

$$C=250+0.75(Y-T)$$

$$I=1,000-50r$$

$$NX=500-500\epsilon$$

$$r=r^*=5$$

### Problem 5-2

- In this economy, solve for national saving, investment, the trade balance, and the equilibrium real exchange rate.
- Suppose now that  $G$  rises to 1250. Repeat the exercises in (a).
- Suppose now that the world interest rate rises from 5 to 10 percent. ( $G$  is again 1000.) Repeat the exercises in (a).

### Problem 5-3

- The country of Leverett is a small open economy. Suddenly, a change in world fashions makes the exports of Leverett unpopular.
- What happens in Leverett to saving, investment, net exports, the interest rate, and the exchange rate?
  - The citizens of Leverett like to travel abroad. How will this change in the exchange rate affect them?
  - The fiscal policy makers of Leverett want to adjust taxes to maintain the exchange rate at its previous level. What should they do? If they do this, what are the overall effects on saving, investment, net exports, and the interest rate?

### Problem 5-4

- In 2005, Federal Reserve Governor Ben Bernanke said in a speech "Over the past decade a combination of diverse forces has created a significant increase in the global supply of saving -- a global saving glut -- which helps to explain both the increase in the US current account deficit and the relatively level of long-term real interest rates in the world today." Is this statement consistent with the models you have learned? Explain.

### Problem 5-11

- You read in a newspaper that the nominal interest rate is 12% in Canada and 8% in the US. Suppose that the real interest rates are equalized in the two countries and that PPP holds.
- a. Using the Fisher equation (Ch. 4), what can you infer about expected inflation in Canada and the US?
- b. What can you infer about expected change in the exchange rate between the Canadian dollar and the US dollar?
- c. A friend proposes a get-rich-quick scheme: borrow from a US bank at 8%, deposit the money in a Canadian bank at 12% and make a 4% profit. What's wrong with this scheme?

### Problem 5-9 (self study)

- Suppose that some foreign countries begin to subsidize investment by instituting an investment tax credit. What happens to the following variables?
- a. World investment demand as a function of the world interest rate
- b. The world interest rate
- c. Investment in our small open economy
- d. Our trade balance
- e. Our real exchange rate

### Problem 5-10 (self study)

- "Traveling in Mexico is much cheaper now than it was ten years ago," says a friend. "Ten years ago, a dollar bought 10 pesos; this year, a dollar buys 15 pesos." Total inflation over this period was 25% in the US and 100% in Mexico. Is your friend right or wrong?
- Explain

### Problem 12-1

- Use the Mundell-Fleming to predict what would happen to aggregate income, the exchange rate, and the trade balance under floating exchange rates in response to each of the following shocks
  - a. A fall in consumer confidence about future induces consumers to spend less and save more
  - b. The introduction of a stylish line of Toyotas makes some consumers prefer foreign cars over domestic cars
  - c. The introduction of automatic teller machine reduces the demand for money.

### Problem 12-2

- A small open economy with a floating exchange rate is in recession with balanced trade. If policy makers want to reach full employment while maintaining balanced trade, what combination of monetary and fiscal policy should they choose?

### Problem 12-4

- Business executives and policymakers are often concerned about the competitiveness of American industry. (the ability of US industries to sell their goods profitably in world markets).
  - a. How would a change in the nominal interest rate affect competitiveness in the short run when prices are sticky?
  - b. Suppose that you wanted to make domestic industries more competitive but did not want to alter aggregate income. According to the MF model, what combination of monetary and fiscal policies should you pursue?

### Problem 12-1a

- Repeat the question in the previous slide assuming the country maintains a fixed exchange rate.

### Problem 12-3

- The world interest rate  $r^*$  may change.
  - a. What might cause the world interest rate to rise?
  - b. In the Mundell-Fleming model with a floating exchange rate, what happens to aggregate income, the exchange rate, and the trade balance when the world interest rate rises?
  - c. Repeat (b) for a fixed exchange rate.

### The Euro Area Crisis

- The crisis consists of four distinct and mutually reinforcing crises
  - A. A Design crisis
  - B. A Fiscal crisis
  - C. A Competitiveness crisis
  - D. A Banking crisis

Read the article and summarize each of the 4 aspects using 100-200 words.

Reading: J.F. Kirkegaard (PIIE) "The Euro Area Crisis: Origin, Current Status, and European and US Responses" (Congressional Testimony)

<http://www.ile.com/publications/print.cfm?researchId=1969&doc=int>