

**Part 1: Multiple Choices (2 points each)**

1. The total expenditure of everyone in the economy is exactly equal to the total:

- a. expenditure on the economy's output of goods and services.
- b. consumption expenditures of everyone in the economy.
- c. expenditure of all business in the economy.
- d. government expenditures.

Answer: a

2. To compute the value of GDP:

- a. goods and services are valued at market prices.
- b. the sale of used goods is included.
- c. production for inventory is not included.
- d. goods and services are valued by weight.

Answer: a

3. Since GDP includes only the additions to income, not transfers of assets, \_\_\_\_\_ are not included in the computation of GDP:

- a. final goods.
- b. used goods.
- c. consumption goods.
- d. goods produced for inventory.

Answer: b

4. When a firm sells a product of inventory, GDP:

- a. increases.
- b. decreases.
- c. is not changed.
- d. increases or decreases, depending on the year the product was produced.

Answer: c

5. Imputed valued included in GDP are the:

- a. market prices of goods and services.
- b. estimated value of goods and services that are not sold in the marketplace.
- c. price of goods and services measured in constant prices.
- d. price of goods and services measured in current prices.

Answer: b

6. Assume that apples cost \$0.50 in 2002 and \$1 in 2007, whereas oranges cost \$1 in 2002 and \$1.50 in 2007. If 4 apples were produced in 2002 and 5 in 2007, whereas 3 oranges were produced in 2002 and 5 in 2007, then the GDP deflator in 2007, using a base year of 2002, was approximately:

- a. 1.5.
- b. 1.7.
- c. 1.9.
- d. 2.0.

Answer: b

7. An increase in the price of goods bought by firms and the government will show up in:

- a. the CPI but not in the GDP deflator.

- b. the GDP deflator but not in the CPI.
- c. both the CPI and the GDP deflator.
- d. neither the CPI nor the GDP deflator.

Answer: b

8. At any particular point in time, the output of economy:

- a. is fixed because the supplies of capital and labor and the technology are fixed.
- b. is fixed because the demand for goods and services are fixed.
- c. varies because the supplies of capital and labor vary.
- d. varies because the technology for turning capital and labor into goods and services varies.

Answer: a

9. According to the neoclassical theory of distribution, if firms are competitive and subject to constant returns to scale, total income in the economy is distributed:

- a. only to the labor used in production.
- b. partly between labor and capital used in production, with the surplus going to the owners of the firm as profits.
- c. equally between the labor and capital used in production.
- d. between the labor and capital used in production, according to their marginal productivities.

Answer: d

## Part 2: Short Answer Questions

### Chapter 3

1. Use the neoclassical theory of distribution to predict the impact on the real wage and the real rental price of capital of the following event:

- a. (2 points) A foreign aid increases capital stock in an economy.

As  $K$  increases,  $MPK$  decreases. The real rental price of capital decreases.  $MPL$  increases. The real wage goes up.

2. An economy described by the following equations:

$$Y=C+I+G \text{ (closed economy)}$$

$$Y=1,000$$

$$C=500+0.6(Y-T)$$

$$I=420-50r, \text{ where } r \text{ is the real interest rate (\%)}$$

$$T=500$$

$$G=300$$

- a. (1 point) What is the marginal propensity to consume (mpc) for this economy?

0.6

- b. (2 points) Find the equilibrium interest rate for the economy

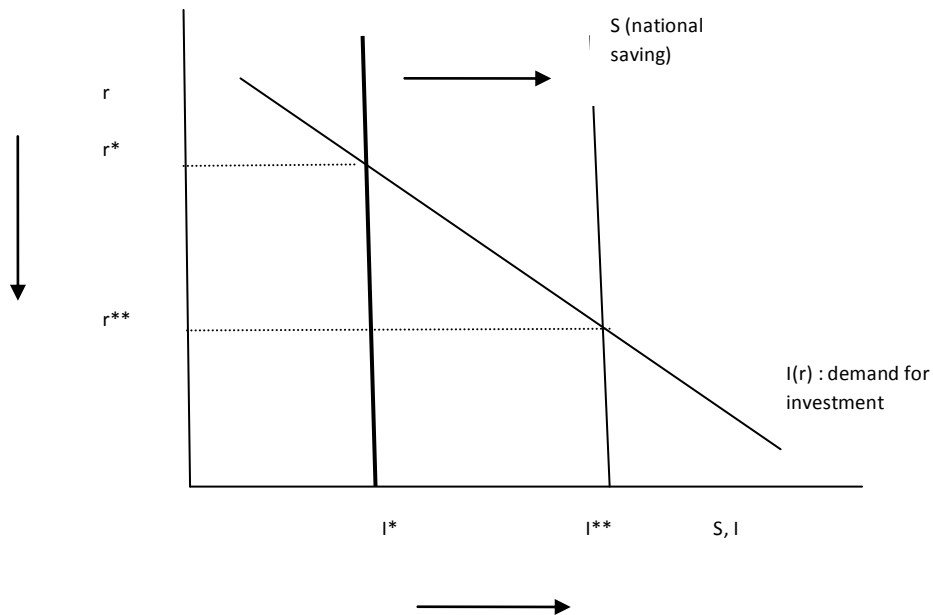
10.4%

- c. (3 points) Suppose the government reduces taxes ( $T$ ) by 50 units without changing government spending ( $G$ ). How many units does national saving increase or decrease?

$C$  increases by  $mpc \times \Delta T$ . National saving decreases by  $mpc \times \Delta T = 0.6 \times 50 = 30$ .

3. Consider the loanable funds market (financial market). The market is in equilibrium. Supply of funds (national saving) and demand for funds (demand for investment) are balanced. The equilibrium interest rate is  $r^*$  and the equilibrium investment is  $I^*$ .

- a. (3 points) Describe the above equilibrium in the diagram. Carefully label. Keep in mind that we assume the classical theory in Chapter 3.
- b. (3 points) Suppose the government increases taxes. Describe the effects on the equilibrium interest rate and equilibrium investment in the diagram. You may use the diagram in part a.



As  $T$  increases,  $S$  increases. Supply curve shifts to right. As a result, investment in the economy increases and the interest rate drops.

- c. (2 points) How are the effects in part b called?

## II. Money and Inflation

1. Fisher effect takes into account change in the price level in the future. That is, Fisher equation is  $i = r + \pi^e$ , where  $i$  is the nominal interest rate,  $r$  is the real interest rate, and  $\pi^e$  is the expected rate of inflation. Real money supply (real money balance) is  $(M/P)^s = M/P$ , and real money demand is  $(M/P)^d = L(r + \pi^e, Y)$ ,  $M$  is the amount of money currently available in the economy,  $P$  is the current price level. Initially the real money demand and supply are balanced. Suppose that the Fed announces it will decrease money supply ( $M$ ) next year (but not today).

- a. (2 points) By the quantity theory of money, how does the announcement affect the *expected* inflation rate?

Since money decreases next year, price level decreases next year. The expected inflation rate decreases.

- b. (2 points) How is the real money demand affected? Why? Briefly explain.

By Fisher effect, the nominal interest rate drops. Since the opportunity cost of holding money decreases, real money demand increases.

- c. (3 points) How does the money market (supply of and demand for real money) return to equilibrium eventually?

Real money balance has to increase. Since today's money supply remains unchanged, today's price level drops.

2. Inflation is usually considered to be harmful to the economy.

a. (2 points) Give one of costs of expected inflation and briefly explain.

Shoe leather cost

Menu costs

Relative price distortion

Unfair tax treatment

General inconvenience for long-range financial planning

b. (2 points) Give one of costs of unexpected inflation and briefly explain.

Arbitrary redistribution of purchasing power

Increased uncertainty

c. (3 points) Some economists argue that there is a benefit of inflation. Give an example of benefit of inflation.

Mild inflation may make the labor market work smoothly. Workers tend to resist nominal wage cut.

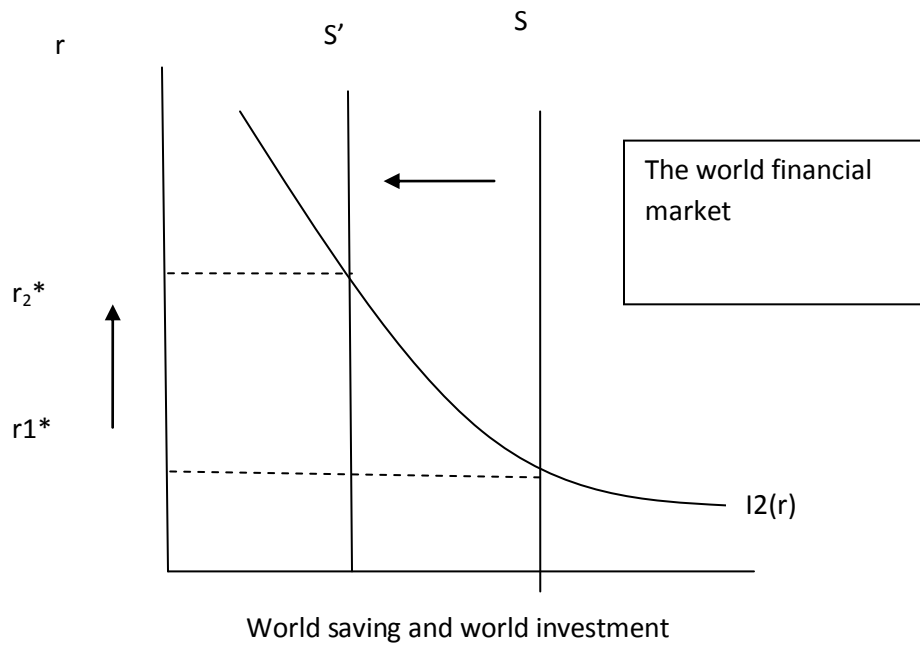
Mild inflation induces workers to accept real wage cut. For example, if the inflation rate is 3% and real wage is cut by 1%. Wage increases by 2 percent in nominal terms. As a result the labor market goes back to equilibrium quickly (no unemployment)

III. Open economy

1. Suppose that a large open economy increases its government spending. Explain the following graphically.

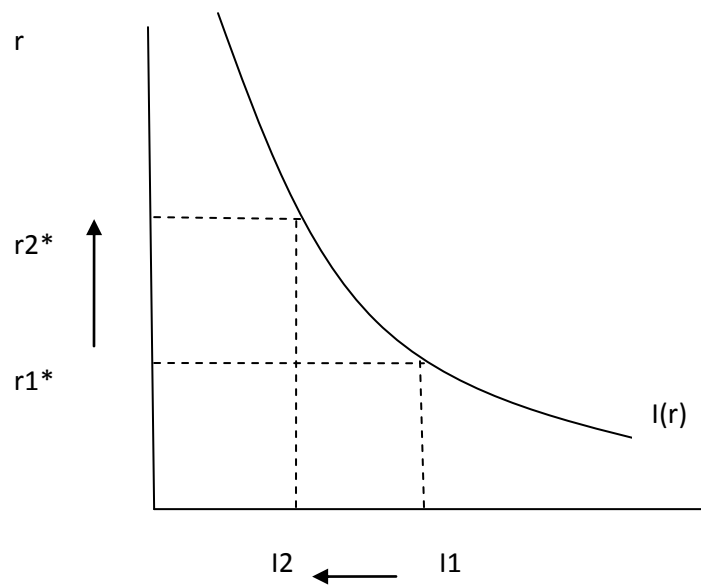
a. (2 points) What happens to the world interest rate?

The world real interest rate rises from  $r_1^*$  to  $r_2^*$  because it decreases the world saving.



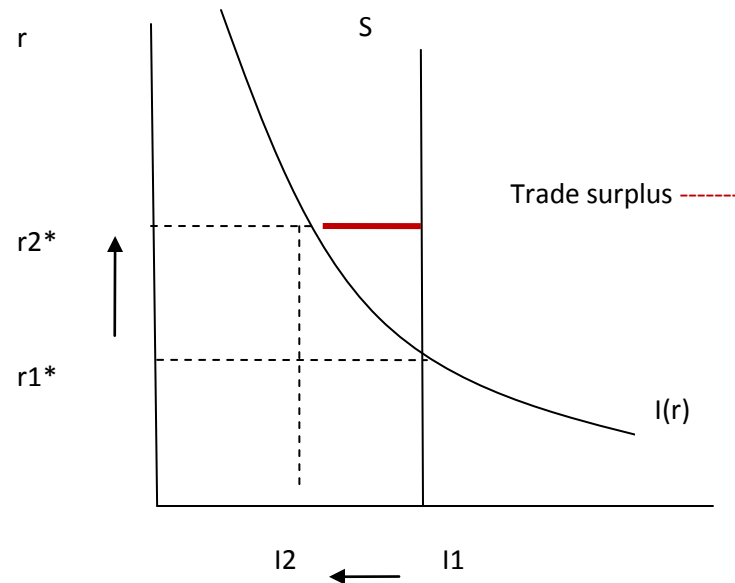
b. (2 points) What happens to investment in a small open economy?

The domestic real interest rate rises because it is the world real interest. Investment decreases along the investment schedule.



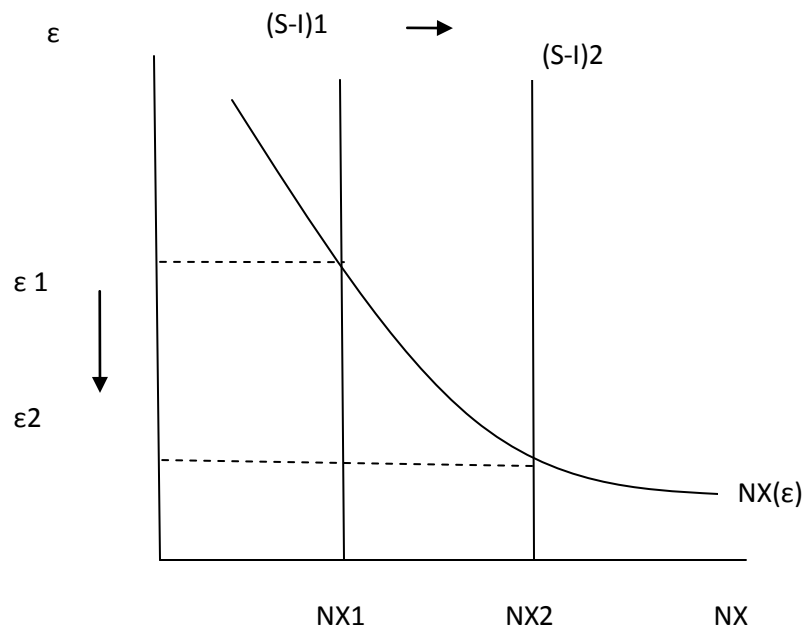
c. (3 points) Suppose originally this small open economy has a balanced trade. What happens to trade balance after the change in global saving?

Given that our saving has not changed, the higher world interest rate means that trade balance increases or the small open economy has trade surplus.



d. (3 points) What happens to the real exchange rate?

To bring about the required increase in the trade balance, the real exchange rate must drop. Our goods become less expensive relative to foreign goods, so that imports decrease and exports increase.



e. (2 points) How about the nominal exchange rate?

Because price levels are not affected, the nominal exchange rate will be depreciated as well.