



# 厦门大学《经济学原理》课程试卷

王亚南经济研究院 2017 年级经济学本科国际化试点班

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试卷类型：(B 卷)

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PRINCIPLES OF ECONOMICS

FINAL EXAMINATION

## Part I

# Multiple Choices (2 points each)

1. There is a phenomenon before every Mathematical Analysis class called seat occupying. It means that some students who arrive very early at the classroom will occupy the seats in the front of the classroom for his or her friends so that they can listen to the teacher better. Other students have no legal right to prevent this kind of behavior. Based on this information, classroom seats in the Mathematical Analysis class are a type of
  - (a) private good
  - (b) public good
  - (c) club good.
  - (d) **common resource.**
2. The tragedy of the commons is
  - (a) a problem due to common resources being over-consumed
  - (b) a problem due to negative externality
  - (c) none of the above
  - (d) **both a and b**
3. When the value of a human life is calculated according to the economic contribution a person makes to society (as reflected in her income-earning potential), the troubling implication is that
  - (a) **it is possible for a retired or disabled person to have no value to society.**
  - (b) economists are more valuable than entrepreneurs.
  - (c) retired people who volunteer in their communities are more valuable than physicians.
  - (d) all workers have equal value.
4. When an infinite value is placed on human life, policymakers who rely on cost-benefit analysis
  - (a) **are forced to pursue any project in which a single human life is saved.**
  - (b) are likely to make decisions that optimally allocate society's scarce resources.
  - (c) would not pursue any public project that would not save human life.
  - (d) would be forced to rely on private markets to provide public goods.

5. On hot summer days, electricity-generating capacity is sometimes stretched to the limit. At these times, electric companies may ask people to voluntarily cut back on their use of electricity. An economist would suggest that
- (a) every electric customer has an incentive to prevent the system from overloading, so this voluntary approach is the most efficient.
  - (b) **it would be more efficient if the electric company raised its rates for electricity at peak times.**
  - (c) it would be more efficient to have a lottery to decide who had to cut back their use of electricity at peak times.
  - (d) it would be more efficient to force everyone to cut their usage of electricity by the same amount.
6. Quality Motors is a Japanese-owned company that produces automobiles; all of its automobiles are produced in American plants. In 2008, Quality Motors produced 25 million dollars worth of automobiles and sold 12 million dollars in the U.S. and 13 million dollars in Mexico. In addition, it sold 2 million dollars from the previous year's inventory in the U.S. The transactions just described contribute how much to U.S. GDP for 2008?
- (a) 12 million dollars.
  - (b) 14 million dollars.
  - (c) **25 million dollars.**
  - (d) 27 million dollars
7. Which of the following is included in the consumption component of GDP?
- (a) household purchases of appliances.
  - (b) household purchases of medical care.
  - (c) household purchases of food.
  - (d) **All of the above are included in the consumption component of GDP.**
8. If real GDP doubles but the GDP deflator does not change, then nominal GDP
- (a) remains constant.
  - (b) **doubles.**
  - (c) triples.
  - (d) quadruples

9. Suppose there are only two firms in an economy: Rolling Rawhide produces rawhide and sells it to Chewy Chomp, Inc., which uses the rawhide to produce and sell dog chews. With each 2 dollars rawhide that it buys from Rolling Rawhide, Chewy Chomp, Inc. produces a dog chew and sells it for 5 dollars. Neither firm had any inventory at the beginning of 2008. During that year, Rolling Rawhide produced enough rawhide for 1000 dog chews. Chewy Chomp, Inc. bought 75% of that rawhide for 1500 dollars and promised to buy the remaining 25% for 500 dollars in 2009. Chewy Chomp, Inc. produced 750 dog chews during 2008 and sold each one during that year for 5 dollars. What was the economy's GDP for 2008?
- (a) 3750 dollars
  - (b) **4250 dollars**
  - (c) 5250 dollars
  - (d) 5750 dollars
10. Gross domestic product includes all
- (a) legal and illegal final goods, but it excludes all legal and illegal final services.
  - (b) legal and illegal final goods and all legal and illegal final services.
  - (c) **legal final goods and services, but it excludes illegal final goods and services.**
  - (d) legal and illegal final goods and legal final services, but it excludes illegal final services.
11. When the consumer price index falls, the typical family (in the U.S.)
- (a) has to spend more dollars to maintain the same standard of living.
  - (b) **can spend fewer dollars to maintain the same standard of living.**
  - (c) finds that its standard of living is not affected.
  - (d) can save less because they do not need to offset the effects of rising prices.
12. If the consumer price index was 80 in 2004, 100 in 2005, and 110 in 2006, then the base year must be
- (a) 2004.
  - (b) 2005.
  - (c) 2006.
  - (d) **The base year cannot be determined from the given information.**

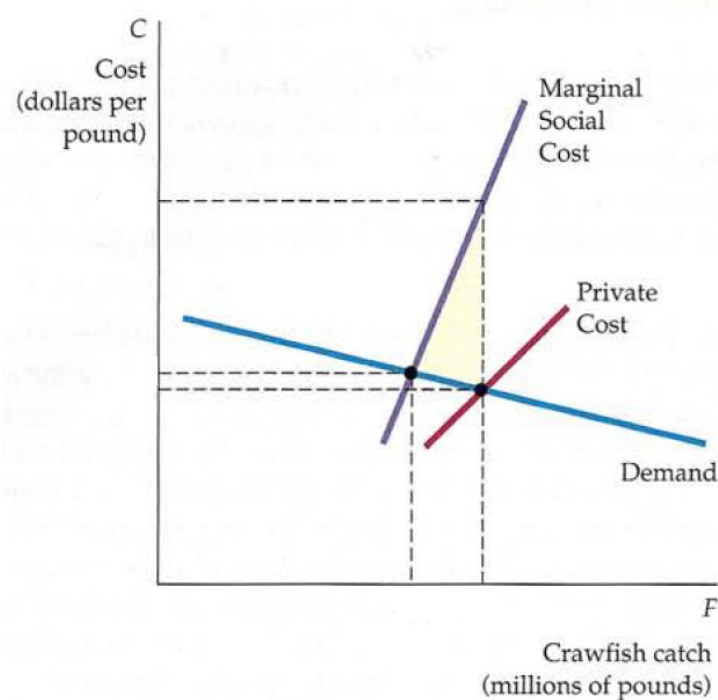
13. In 1969, Fritz bought a Ford Mustang for \$2,500. If the price index was 36.7 in 1969 and the price index was 180 in 2006, then what is the price of the Ford Mustang in 2006 dollars?
- (a) \$509.72
  - (b) \$6,866.49
  - (c) \$9,761.58
  - (d) **\$12,261.58**
14. Which of the following is correct?
- (a) Nominal and real interest rates always move together.
  - (b) Nominal and real interest rates never move together.
  - (c) **Nominal and real interest rates do not always move together.**
  - (d) Nominal and real interest rates always move in opposite directions.
15. Assume an economy experienced a positive rate of inflation between 2003 and 2004 and again between 2004 and 2005. However, the inflation rate was higher between 2004 and 2005 than it was between 2003 and 2004. Which of the following scenarios is consistent with this assumption?
- (a) The CPI was 100 in 2003, 110 in 2004, and 105 in 2005.
  - (b) The CPI was 100 in 2003, 120 in 2004, and 135 in 2005.
  - (c) **The CPI was 100 in 2003, 105 in 2004, and 130 in 2005.**
  - (d) The CPI was 100 in 2003, 90 in 2004, and 88 in 2005.
16. The source of the supply of loanable funds in a closed economy
- (a) **is saving and the source of demand for loanable funds is investment.**
  - (b) is investment and the source of demand for loanable funds is saving.
  - (c) and the demand for loanable funds is saving.
  - (d) and the demand for loanable funds is investment.

17. The slope of the demand for loanable funds curve in a closed economy represents the
- (a) positive relation between the real interest rate and investment.
  - (b) **negative relation between the real interest rate and investment.**
  - (c) positive relation between the real interest rate and saving.
  - (d) negative relation between the real interest rate and saving.
18. The Eye of Horus incense company has \$10 million in cash which it has accumulated from retained earnings. It was planning to use the money to build a new factory. Recently, the rate of interest has increased. The increase in the rate of interest should
- (a) not influence the decision to build the factory because The Eye of Horus doesn't have to borrow any money.
  - (b) not influence the decision to build the factory because its stockholders are expecting a new factory.
  - (c) make it more likely that The Eye of Horus will build the factory because a higher interest rate will make the factory more valuable.
  - (d) **make it less likely that The Eye of Horus will build the factory because the opportunity cost of the \$10 million is now higher.**
19. The supply of loanable funds slopes
- (a) **upward because an increase in the interest rate induces people to save more.**
  - (b) downward because an increase in the interest rate induces people to save less.
  - (c) downward because an increase in the interest rate induces people to invest less.
  - (d) upward because an increase in the interest rate induces people to invest more.
20. If the quantity of loanable funds demanded exceeds the quantity of loanable funds supplied,
- (a) there is a surplus and the real interest rate is above the equilibrium level.
  - (b) there is a surplus and the real interest rate is below the equilibrium level.
  - (c) there is a shortage and the real interest rate is above the equilibrium level.
  - (d) **there is a shortage and the real interest rate is below the equilibrium level.**

## Part II

# Problems

1. (Crawfish Fishing Problems in Louisiana.) In recent years, crawfish have become a popular restaurant item. In 1950, for example, the annual crawfish harvest in the Atchafalaya River basin in Louisiana was just over 1 million pounds. By 1995, it had grown to over 30 million pounds. Because most crawfish grow in ponds to which fishermen have unlimited access, a common property resource problem has arisen: Too many crawfish have been trapped, causing the crawfish population to fall far below the efficient level. Relevant curves. Private cost is upward-sloping: As the catch increase, so does the additional effort that must be made to obtain it. The demand curve is downward sloping but elastic because other shellfish are close substitutes.



Let  $F$  represent the catch of crawfish in millions of pounds per year (shown on the horizontal axis), and let  $C$  represent cost in dollars per pound (shown on the vertical axis). The three curves in the graph are as follows:

|                       |                        |
|-----------------------|------------------------|
| Demand:               | $C = 0.401 - 0.0064F$  |
| Marginal Social Cost: | $C = -5.645 + 0.6509F$ |
| Private Cost:         | $C = -0.357 + 0.0573F$ |

- a. Solve the socially efficient crawfish catch and the actual catch, respectively. (2 points)



b. Define the social cost of common access as the excess of social cost above the private benefit of fishing summed from the socially efficient level to the actual level. Calculate the social cost of free access. (2 points)

c. Suppose that crawfish popularity continues to increase, and that the demand curve shifts from  $C = 0.401 - 0.0064F$  to  $C = 0.50 - 0.0064F$ . How does this shift in demand affect the socially efficient catch, the actual catch, and the social cost of common access? (Hint: Use the marginal social cost and private cost curves,.) (3 points) (4 points)

d. Is the social cost of common access with the new demand larger than, equal to, or smaller than that with the original demand? (2 points)

**Answer:**

a. Socially efficient catch: 9.2 million pounds, actual catch: 11.9 million pounds

b. The social cost of common access is the area of a triangle with a base of 2.7 million pounds (11.9-9.2) and a height of \$1.775 (\$2.10-\$0.325), or \$2,396,000.

c. Calculate the socially efficient catch by solving :  $0.50 - 0.0064F = -5.645 + 0.6509F$ , or  $F^* = 9.35$ .

Find the actual level:  $0.50 - 0.0064F = -0.357 + 0.0573F$ , or  $F^{**} = 13.45$ .

Substitute  $F^{**}$  into the equation for marginal private cost

$$C = -0.357 + (0.0573)(13.45), \text{ or } C = \$0.41.$$

(or find the marginal private value, which equals the marginal private cost, from the demand equation)

Notice that the marginal social cost of producing 13.45 units is

$$MSC = -5.645 + (0.6509)(13.45) = \$3.11.$$

With the increase in demand, the social cost of common access is the area of a triangle with a base of 4.1 million pounds (13.45 - 9.35) and a height of \$2.70 (\$3.11 - 0.41), or **\$5,535,000**.

d. larger.

## Problem 2 (10 points)

1. What is the difference between nominal GDP and real GDP? Why do economists use real GDP rather than nominal GDP to gauge economic production? (4 points)

**Answer: Real GDP is the production of goods and services valued at constant or chained prices. Nominal GDP is the production of goods and services valued at current prices. Economists use real GDP rather than nominal GDP to gauge economic production because real GDP is not affected by changes in prices, so it reflects only changes in the amounts being produced. A rise in nominal GDP can be caused by increased production, higher prices, or both.**

2. A farmer sells wheat to a baker for 2 dollars. The baker uses the wheat to make bread, which is sold for 3 dollars. What is the total contribution of these transactions to GDP? Why? ( 2 points)

**Answer: The contribution to GDP is 3 dollars, the market value of the bread, which is the final good that is sold.**

3. Many years ago, Peggy paid 500 dollars to put together a record collection. Today, she sold her albums at a garage sale for 100 dollars. How does this sale affect current GDP? Why? (2 points)

**Answer: The sale of used records does not affect GDP at all because it involves no current production.**

4. The value of the housing services provided by the economy's owner-occupied houses is ( 2 points)

- (a) included in GDP, and the estimated rental values of the houses are used to place a value on these housing services.
- (b) included in GDP, and the actual mortgage payments made on the houses are used to estimate the value of these rental services.
- (c) excluded from GDP since these services are not sold in any market.
- (d) excluded from GDP since the value of these housing services cannot be estimated with any degree of precision.

**Answer:a.**

### Problem 3 (10 points)

Why does the GDP deflator give a different rate of inflation than the CPI?

**Ans:** The GDP deflator and the CPI differ in two important ways. The GDP deflator uses as a basket of all final goods and services produced in the domestic economy, while the CPI basket includes goods and services purchased by typical households. Therefore, changes in the price of imported goods affect the CPI, but not the GDP deflator. Also, changes in the price of domestically produced capital goods affect the GDP deflator, but not the CPI. Changes in the price of domestically produced consumer goods are likely to affect the CPI more than the GDP deflator because it is likely that those goods make up a larger part of consumer budgets than of GDP deflator.

### Problem 4 (10 points)

Jay and Joyce meet George, the banker, to work out the details of a mortgage. They all expect that inflation will be 2 percent over the term of the loan, and they agree on a nominal interest rate of 6 percent. As it turns out, the inflation rate is 5 percent over the term of the loan.

1. What was the expected real interest rate? (3 Points)
2. What was the actual real interest rate? (3 Points)
3. Who benefited and who lost because of the unexpected inflation? (4 Points)

**Ans:**

1. The expected real interest rate was 4 percent (6-2).
2. The actual real interest rate was 1 percent (6-5).
3. George, the banker, lost because he received less real interest income than he expected. Jay and Joyce gained because they paid less real interest income than they expected.

## Problem 5 (10 points)

Assume a closed economy. (10 points)

1. Draw and label a graph showing equilibrium in the market for loanable funds. What is the supply side? What is the demand side? (4 points)

**Supply side: savings; Demand side: Investment**

2. Explain why the demand for loanable funds slopes downward and why the supply of loanable funds slopes upward. (2 points)

**The higher the real interest rate, the more people save and the less firms want to borrow.**

3. Consider an investment tax credit that gives a tax advantage to any firm building a new factory or buying a new piece of equipment. Specifically, it directly reduces the tax bills of those firms. What is the effect of an investment tax credit on the equilibrium interest rate and investment? (2 points)

**Two things happen: (1) Demand for loanable funds increases; (2) Supply of loanable funds decreases since government savings decrease. Effect: real interest and equilibrium investment goes up. Equilibrium investment goes up because the effect of (1) typically dominates the effect of (2).**

4. Let  $T$  denote the amount of tax and  $G$  denote government spending. Assume we begin with a balanced budget where  $T = G$ . But suddenly  $G$  increases while  $T$  remains the same, so we run into a budget deficit. Assuming private saving and Investment demand also remain the same. What is the impact of this increase in  $G$  on the equilibrium real interest rate and investment? (2 points)

**Higher government deficit reduces the supply of loanable funds, which leads to an increase in equilibrium real interest rate. This results in a decrease in equilibrium investment if nominal interest rate is above the zero lower bound.**

## Problem 6 (10 points)

Suppose GDP is \$8 trillion, taxes are \$1.5 trillion, private saving is \$0.5 trillion, and public saving is \$0.2 trillion. Assuming this economy is closed, calculate consumption, government purchases, national saving, and investment.

$$C = Y - T - S_{pvt} = 8 - 1.5 - 0.5 = 6$$

$$G = T - S_{gov} = 1.5 - 0.2 = 1.3$$

$$S = S_{pvt} + S_{gov} = 0.7$$

$$I = S = 0.7$$