

## 厦门大学《经济学原理》课程试卷

王亚南经济研究院 2020 年級 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. Assuming education results in a positive externality, which of the following statements is correct?
  - (a) **The socially optimal quantity of education will exceed the market equilibrium quantity of education.**
  - (b) The social cost of producing education exceeds the private cost of producing education.
  - (c) The positive externality can be depicted on a graph by the vertical distance between the supply curve and the social-cost curve.
  - (d) All of the above are correct.
2. Wally owns a dog whose barking annoys Wally's neighbor, Corrine. Suppose that the benefit of owning the dog is worth \$700 to Wally and that Corrine bears a cost of \$500 from the barking. Assuming Wally has the legal right to keep the dog, a possible private solution to this problem is that
  - (a) Wally pays Corrine \$600 for her inconvenience.
  - (b) Corrine pays Wally \$400 to give the dog to his parents who live on an isolated farm.
  - (c) Corrine pays Wally \$550 to give the dog to his parents who live on an isolated farm.
  - (d) **The current situation is efficient.**
3. To increase safety at a bad intersection, the mayor must decide whether to install a traffic light at a cost of \$45,000. If the traffic light reduces the risk of fatality by 0.4 percent, and the value of a human life is estimated to be \$10 million, the mayor should
  - (a) install the light because the expected benefit of \$400,000 is greater than the cost.
  - (b) install the light because the expected benefit of \$45,000 is greater than the cost.
  - (c) not install the light because the expected benefit of \$45,000 is only equal to the cost.
  - (d) **not install the light because the expected benefit of \$40,000 is less than the cost.**
4. Why do elephants face the threat of extinction while cows do not?

- (a) **Cattle are owned by ranchers, while elephants are owned by no one.**
  - (b) Cattle are a valuable source of income for many people, while elephants have no market value.
  - (c) There is a high demand for products that come from cows, whereas there is no demand for products that come from elephants.
  - (d) There are still lots of cattle that roam free, while all elephants live in zoos.
5. Which of the following statements is correct?
- (a) The establishment of property rights sometimes gives rise to market failure.
  - (b) In the context of public goods, the Coase theorem implies that total surplus in some markets can be improved by the elimination of property rights.
  - (c) Government regulation of private behavior, in response to market failure, can never improve social well-being.
  - (d) **The absence of property rights sometimes gives rise to market failure.**
6. Which of the following does NOT add to China's GDP?
- (a) The European customers bought Huawei Cell Phones manufactured in China.
  - (b) Toyota builds a new auto factory in Guangzhou.
  - (c) The city of Xiamen pays a salary to a policeman.
  - (d) **The government sends 1000 yuan RMB to each homeless person to help their livelihood.**
7. Which of the following is not included in the investment component of China's GDP?
- (a) Household purchases of newly-constructed houses.
  - (b) Coco-cola produced this year but not yet sold and stored in warehouses.
  - (c) **The amount of money students paid for tuition.**
  - (d) Rice produced this year and preserved as seeds to be planted next year.
8. The consumer price index measures approximately the same economic phenomenon as
- (a) nominal GDP.
  - (b) real GDP.
  - (c) **the GDP deflator.**
  - (d) the unemployment rate.

9. Due to the outbreak of the African swine flu, the pork price rises, this will increase:
- (a) **both the CPI and the GDP deflator.**
  - (b) neither the CPI nor the GDP deflator.
  - (c) the CPI but not the GDP deflator.
  - (d) the GDP deflator but not the CPI.
10. If the consumer price index is 100 in year 1980 and 300 today, then \$300 in 1980 has the same purchasing power as \_\_\_\_\_ today.
- (a) \$400
  - (b) \$500
  - (c) \$600
  - (d) **\$900**
11. Productivity
- (a) is nearly the same across countries, and so provides no help explaining differences in the standard of living across countries.
  - (b) explains very little of the differences in the standard of living across countries.
  - (c) explains some, but not most of the differences in the standard of living across countries.
  - (d) **explains most of the differences in the standard of living across countries.**
12. In 2009, the imaginary nation of Florastan had a population of 8,044 and real GDP of 36,198,000. In 2010 it had a population of 7,800 and real GDP of 35,880,000. What was the growth rate of real GDP per person in Florastan between 2009 and 2010?
- (a) -2.2 percent
  - (b) -0.7 percent
  - (c) **2.2 percent**
  - (d) 4.5 percent
13. The equipment and structures available to produce goods and services are called
- (a) **physical capital.**
  - (b) human capital.
  - (c) the production function.

- (d) technology.
14. Which of the following best states economists' understanding of the facts concerning the relationship between natural resources and economic growth?
- (a) A country with no or few domestic natural resources is destined to be poor.
  - (b) Differences in natural resources have virtually no role in explaining differences in standards of living.
  - (c) Some countries can be rich mostly because of their natural resources and countries without natural resources need not be poor, but can never have very high standards of living.
  - (d) **Abundant domestic natural resources may help make a country rich, but even countries with few natural resources can have high standards of living.**
15. The Economic Development Minister of a country has a list of things she thinks may explain her country's low growth of real GDP per person relative to other countries. She asks you to pick the one you think most likely explains her country's low growth. Which of the following contributes to low growth?
- (a) **poorly enforced property rights**
  - (b) outward-oriented trade policies
  - (c) policies that permit foreign investment
  - (d) none of the above
16. (I) The key difference between bond market, stock market and banks, mutual funds is that: the former two are places for the latter two to perform their financial operations.  
 (II) A bond issued by financially risky company usually has higher interest rate than the other bond issued by financially creditable company.
- (a) (I) is true, (II) is false
  - (b) **(I) is false, (II) is true**
  - (c) Both are true
  - (d) Both are false
17. If the government collects less in tax revenue than it spends, and households consume more than they get in after-tax income, then
- (a) private and public saving are both positive.
  - (b) **private and public saving are both negative.**
  - (c) private saving is positive, but public saving is negative.

- (d) private saving is negative, but public saving is positive.
18. A closed economy has income of \$5,000 billions, consumer spending of \$3000 billions, taxes of \$700 billions, and investment of \$1200 billions. What is public saving?
- (a) \$100 billions
  - (b) \$800 billions
  - (c) **-\$100 billions**
  - (d) -\$800 billions
19. If the business community becomes more optimistic about the profitability of capital, the \_\_\_\_\_ curve for loanable funds would shift, driving the equilibrium interest rate \_\_\_\_\_ .
- (a) supply, up
  - (b) supply, down
  - (c) **demand, up**
  - (d) demand, down
20. Suppose the government deficit decreases, but the interest rate remains the same. Which of the followings might have happened simultaneously to keep interest rates the same.
- (a) Consumers' income increases while consumption doesn't change.
  - (b) government increases tax percentage on firms' profit earnings.
  - (c) Firms become pessimistic on future economic growth, thus decrease operational scales.
  - (d) **None of above is correct.**

## Part II

# Problems

### Problem 1 (20 points)

Consider the following goods:

- a fish fillet served at a restaurant;
- fish in the ocean;
- exotic fish in a huge aquarium in a privately-owned building.

1. Which of these goods is the best example of a club good? Briefly explain. (5 Points)
2. Which of these goods is the best example of a common resource? Briefly explain. (5 Points)
3. Do any of these goods cause an externality? If so, which one(s)? Positive or negative? Briefly explain. (5 Points)
4. Which of these goods is the best example of a private good? Briefly explain. (5 Points)

**Ans:**

1. The exotic fish in the huge aquarium is the best example of a club good, because the viewing of these fish is excludable and nonrival in consumption..
2. Fish in the ocean is the best example of a common resource, because they are rival in consumption and not excludable.
3. The exotic fish in the huge aquarium result in a positive externality because many people can enjoy viewing them. Consumption of fish in the ocean results in a negative externality because one person's consumption reduces the amount available for others.
4. The fish fillet served by the restaurant is the best example of a private good, because the fillet is excludable and rival in consumption.

## Problem 2 (10 points)

Suppose an economy only produces two products, A and B. The prices and quantities of production for each of the two products are given in the following table. Treat Year 2003 as base year. For each of the three years, calculate nominal GDP, real GDP, GDP deflator. And then based on GDP deflator, calculate the inflation.

Year	Pa	Qa	Pb	Qb	nGDP	rGDP	GDP deflator	Inflation based on GDP deflator
2001	1	100	2	100				
2002	2	150	3	200				
2003	3	200	4	300				

Ans:

Year	Pa	Qa	Pb	Qb	nGDP	rGDP	GDP deflator	Inflation based on GDP deflator
2001	1	100	2	100	300	700	42.9	\
2002	2	150	3	200	900	1250	72	67.8%
2003	3	200	4	300	1800	1800	100	38.9%

Ans:

1. Nominal GDP—Year 1:  $3 \times 4 + 3 \times 4 = 24$ ; Year 2:  $6 \times 2 + 9 \times 8 = 84$ ; Year 3:  $8 \times 1 + 12 \times 12 = 152$ .
2. Real GDP – Year 1:  $3 \times 4 + 3 \times 4 = 24$ ; Year 2:  $6 \times 4 + 9 \times 4 = 60$ ; Year 3:  $8 \times 4 + 12 \times 4 = 80$ .
3. GDP Deflator =  $100 \times \text{Nominal GDP} / \text{Real GDP}$  Year 1: 100; Year 2: 140; Year 3: 190.
4. Real GDP Growth Rate:  $(80 - 60) / 60 = 33.3\%$
5. Inflation Rate:  $(190 - 140) / 140 = 35.7\%$ .



## Problem 3 (15 points)

In class we study the determinants of a country's productivity and some public policies that the government might adopt to promote productivity.

1. According to Mankiew's textbook, what are the determinants of a country's productivity? (5 points)
2. Some data that at first might seem puzzling: The share of GDP devoted to investment was similar for the United States and South Korea from 1960-1991. However, during these same years South Korea had a 6 percent growth rate of average annual income per person, while the United States had only a 2 percent growth rate. If the saving rates were the same, other things equal, why were the growth rates so different? ( 6 points )
3. In some countries it is time consuming and costly to establish ownership of property. Reforms to reduce these costs would likely (4 points)
  - (a) have no affect on either real GDP nor productivity
  - (b) raise real GDP and productivity.
  - (c) raise real GDP but not productivity.
  - (d) raise productivity but not real GDP.

**Ans:**

1. **Physical capital, human capital, nature resource and technology**
2. **The explanation is based on the concept of diminishing returns to capital. A country that has a lot of income, and so a lot of capital, gains less by adding more capital than does a country that currently has little capital. It is easy to envision how a poor country without much capital could increase its output considerably with even a little more capital.**
3. **B.**

## Problem 4 (15 points)

Assume firms' investment response (I) to real interest rate (i) is governed by this formula:

$$I = 4000 - 2000i$$

Consumers' saving response (PrS) to real interest rate is captured by this formula:

$$PrS = 5000i$$

Now, assume GDP of this country (Y) is 10000, tax revenue (T) is 2000, government budget surplus is 500.

1. What is this country's public saving (PuS), national saving (NS), and government expenditure (G)? (3 point)
2. When the loanable fund market is at equilibrium state, what is this country's real interest rate ( $i^*$ ), investment ( $I^*$ ), and consumption ( $C^*$ ) (4 points)?

Assume the country is going to a war, so the government massively sells government bonds for raising money to produce war machines, as a result, government expenditure now reaches 5000, while we assume GDP and tax revenue do not change.

3. Is the government now at budget surplus or deficit, how large? What is public saving now? (2 point)
4. What will be new interest rate, investment, and consumption at equilibrium state? (4 points)
5. What will be new private saving and national saving? (2 points)

**Ans:**

1. **PuS=budget surplus=500**  
**NS=PrS+PuS=5000i+500**  
**G=T-budget surplus=2000-500=1500**
2. **Let I=NS, i.e. 4000-2000i=5000i+500 (1 point), then,  $i^* = 0.5$**   
 $I^* = 4000 - 2000 * 0.5 = 3000$   
 $C^* = Y - G - I = 10000 - 1500 - 3000 = 5500$
3. **Government is obviously at budget deficit with G-T=5000-2000=3000**  
**New PuS=-3000**

4.  $\text{New NS} = \text{PrS} + \text{New PuS} = 5000i - 3000$ ,  
therefore let  $I = \text{New NS}$ , i.e.  $4000 - 2000i = 5000i - 3000$  (1 point), we have  
 $\text{New } i^* = 1$   
 $\text{New } I^* = 4000 - 2000 * 1 = 2000$   
 $\text{New } C^* = Y - \text{New } I^* - \text{New } G = 10000 - 2000 - 5000 = 3000$
5.  $\text{New } PrS^* = Y - T - \text{New } C^* = 10000 - 2000 - 3000 = 5000$   
(or  $\text{New } PrS^* = 5000 * \text{New } i^* = 5000 * 1 = 5000$ )  
 $\text{New } NS^* = \text{New PuS} + \text{New } PrS^* = -3000 + 5000 = 2000$