

國立中央大學八十九學年度碩士班研究生入學試題卷

160 所別: 產業經濟研究所 乙組 科目: 總體經濟學 共 1 頁 第 1 頁

考題包含兩大部份(Part I and Part II), Part I 包括 20 題選擇題, 請選出你認為最適當的一個答案, 答對一題各得 3 分, 答錯一題倒扣一分, 沒有答題不予計分, 得分扣分只計算 Part I 的部份, Part II 另外計分, Part II 為計算簡答題, 所佔分數列於各小題之後。

參考用

Part I. Multiple-Choice Questions

1. Assume the Fed has complete control over the money supply. If the demand for money is greater than the supply of money, we would expect
 - a. an increase in the quantity of money supplied, a decrease in the quantity of money demanded, and an increase in the rate of interest.
 - b. a decrease in the quantity of money supplied, a decrease in the quantity of money demanded, and an increase in the rate of interest.
 - c. a decrease in the quantity of money demanded and a decrease in the rate of interest.
 - d. a decrease in the quantity of money demanded and an increase in the rate of interest.
2. If the Fed purchases Treasury bonds on the open market, then
 - a. the monetary base will decline.
 - b. the money multiplier will increase.
 - c. bank reserves will increase.
 - d. the required reserve ratio will increase.

Use the following table to answer the next two questions.

| | 1987 | | 1993 | |
|------------|-------|----------|-------|----------|
| | Price | Quantity | Price | Quantity |
| Stereos | 500 | 75 | 1,000 | 100 |
| Television | 200 | 100 | 400 | 150 |

3. Using 1987 as a base-year, real GDP in 1993 equaled
 - a. \$160,000
 - b. \$80,000
 - c. \$57,500
 - d. \$115,000
4. Production between 1987 and 1993 changed by
 - a. 39%
 - b. 51%
 - c. 100%
 - d. 150%

Use the following information to answer the next two questions. The equations below describe the relationship between shares (measured in percent) of spending in GDP(Y) and the interest rate (i), also measured in percent.

$(C/Y)=66 - 0.25i$, $(I/Y)=20 - 1.25i$, $(X/Y)=4-0.5i$, $(G/Y)=18$. Suppose the interest rate is determined at the point where national saving rate equals the total shares of investment and net export.

5. Then the equilibrium interest rate is _____ % and the share of net export (X/Y) is _____ %.
 - a. 4, 3
 - b. 4, 2
 - c. 2, 3
 - d. 2, 4
6. Suppose the government share (G/Y) increases in extra 8 %. The share of investment will change _____ %?
 - a. 5
 - b. 3
 - c. -3
 - d. -5
7. Suppose, for a given economy, $C=500+0.65Y$ and $X=1,900-0.25Y$ (C is consumption, Y is income, and X is net export). The multiplier for this economy is
 - a. Not enough information is given.
 - b. 6.7
 - c. 1.2
 - d. 1.67

國立中央大學八十九學年度碩士班研究生入學試題卷

所別: 產業經濟研究所 乙組 科目: 總體經濟學 共 肆 頁 第 2 頁

Using the table below, answer the following three questions.

| Year | Price Level | Real GDP (billion of 1987 dollars) | Money Supply | Velocity |
|------|-------------|------------------------------------|--------------|----------|
| 1987 | | 4,540 | 2,917 | |
| 1988 | | 4,719 | 3,078 | 1.59 |
| 1989 | | 4,838 | 3,233 | 1.63 |

8. Velocity in 1987 was
 - a. Not enough information is given.
 - b. 1.56
 - c. 0.64
 - d. zero.
9. The price level in 1988 was
 - a. 1.037
 - b. 1.09
 - c. 0.91
 - d. Not enough information is given.
10. The rate of inflation between 1988 and 1989 was
 - a. 5.0 %
 - b. 4.5%
 - c. Not enough information is given.
 - d. 1.09%.
11. The natural rate of unemployment is
 - a. the unemployment rate related to the business cycle.
 - b. the unemployment rate when the economy is in a boom.
 - c. the unemployment rate when real and potential GDP are equal.
 - d. the unemployment rate when real and nominal GDP are equal.
12. Students entering the labor force for the first time in June results in
 - a. a seasonal increase in unemployment.
 - b. a cyclical increase in unemployment.
 - c. a seasonal decrease in unemployment.
 - d. no change in unemployment.
13. Which of the following is most likely to occur if a country adopts an export-led strategy?
 - a. More resources will be allocated for producing goods to be used for domestic consumption.
 - b. Laws limiting imports from abroad will be passed.
 - c. Trade with other countries will be increased.
 - d. export subsidy will be canceled.

參考用

Using the figure below, answer the next two questions.

| Year | GDP Price Deflator |
|------|--------------------|
| 1990 | 113.6 |
| 1991 | 118.2 |
| 1992 | 122.1 |

14. What was the rate of inflation in 1991?
 - a. 18.2 percent
 - b. 4.0 percent
 - c. 3.9 percent
 - d. 7.0 percent
15. What happened to the rate of inflation between 1991 and 1992?
 - a. It increased.
 - b. There was a deflation.
 - c. It stayed constant.
 - d. There was disinflation.

國立中央大學八十九學年度碩士班研究生入學試題卷

類別：產業經濟研究所 乙組 科目：總體經濟學

共三頁 第3頁

16. Assume velocity stays constant and real GDP growth averages 2.5 percent per year. If the central bank increases the money supply by 4 percent per year, what will the average annual rate of inflation be?
- a. 6.5 % b. 1.5 % c. 2 % d. 4 %
17. Which of the following best explains what is meant by the term crowding out?
- a. Increases in consumption expenditures, by causing interest rates to rise, result in a decline in investment expenditures.
- b. An increase in investment, by causing interest rates to rise, results in a drop in government purchases.
- c. An increase in consumption expenditures, by causing interest rates to rise, results in a decline in government purchases.
- d. An increase in government purchases, by causing interest rates to rise, results in a decline in investment expenditures.
18. Structural unemployment occurs because
- a. of economic booms.
- b. people have insufficient skills.
- c. of recessions.
- d. it takes time to find a job.
19. If Central Bank prints money to finance a \$100 billion deficit, then
- a. the money supply will increase by \$100 billion.
- b. the money supply will decrease by \$100 billion.
- c. the monetary base will increase by 100 billion.
- d. the monetary base will decrease by \$100 billion.
20. Assume the price level doubles in Germany and rises by 75 percent in the United States. To remain consistent with purchasing power parity, the German mark must
- a. appreciate 25 percent against the U.S. dollar.
- b. appreciate 50 percent against the U.S. dollar.
- c. depreciate 25 percent against the U.S. dollar.
- d. depreciate 50 percent against the U.S. dollar.

Part II. Short-Answer Question

1. The following equations summarize the structure of the commodity market (only contains C and I).

$$C = 100 + 0.8Y,$$

$$I = 160 - 4i,$$

where Y , C , I , and i stand for income, consumption, investment, and interest rate, respectively.

The demand for money is $M^d/P = 0.3Y - 12i$. The money supply is $M^s = 600$.

(a) Derive aggregate demand equation $P = D(Y)$. (5%)

Let $L^s = -10 + (W/P)$ be the aggregate labor supply and $Y = 70L - L^2$ be the aggregate production function of the economy. Assume that the goods and labor markets are perfectly competitive.

(b) Derive aggregate labor demand curve, $L^d = L^d(W/P)$. (3%)

(c) What is the equilibrium level of employment of the economy? What is aggregate supply equation? (4%)

(d) Use the above information to derive the equilibrium levels of P , W , Y and i . (4%)

(e) If the money supply increased to 900 from 600, what would P , W , Y and i be? Describe the economic implication to this behavior of macroeconomy. (4%)

2. Consider the behavior of an individual who lives two periods. In the first, he earns dividend income, consumes and saves (or borrows). In the second, he receives another dividend payment and returns from first period saving, he then consumes all the proceeds. Importantly, he is able to lend and borrow freely at the market rate of interest. Let D_1 and D_2 denote first and second period dividend income, C_1 and C_2 first and second period consumption, S^h saving, and r the gross rate of interest. The individual's problem is to choose C_1 , S^h and C_2 to solve:

$$\max \log C_1 + \beta \log C_2 \quad (1)$$

$$s.t. \quad C_1 = D_1 - S^h \quad (2)$$

$$C_2 = D_2 + rS^h \quad (3)$$

with $0 < \beta < 1$. (The parameter β is the individual's subjective discount factor.) Further, the individual takes D_1 , D_2 and r as a given.

(i) Derive the individual's supply curve for saving (a relation between S^h and r) (8%).

(ii) What are the effects of changes in D_1 , and D_2 on S ? Briefly explain (6%).

(iii) Derive a relation for the optimal C_1 . Suppose that D_1 , and D_2 adjust in way that keeps the present value of lifetime earnings $(D_1 + D_2/r)$ constant. What is the effect on C_1 ? Briefly explain. What must be true for this (type of) result to obtain in general? (6%)