

元智大學 101 學年度研究所 碩士班 招生試題卷

系(所)別：管理學院商學碩士班

組別：財務金融碩士學程

科目：經濟學

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●不可使用電子計算機

1. A moderately risk-averse investor has 50% of her portfolio invested in stocks and 50% in risk-free Treasury bills. Show how each of the following events will affect the investor's budget line and the proportion of stocks in her portfolio:
 - (1) The standard deviation of the return on the stock market increases, but the expected return on the stock market remains the same. (3 points)
 - (2) The expected return on the stock market increases, but the standard deviation of the stock market remains the same. (3 points)
 - (3) The return on risk-free Treasury bills increases. (4 points)
2. Suppose a profit-maximizing monopolist is producing 800 units of output and is charging a price of \$40 per unit.
 - (1) If the elasticity of demand for the product is -2, find the marginal cost of the last unit produced. (3 points)
 - (2) What is the firm's percentage markup of price over marginal cost? (3 points)
 - (3) Suppose that the average cost of the last unit produced is \$15 and the firm's fixed cost is \$2000. Find the firm's profit. (4 points)
3. You are planning to invest in fine wine. Each case costs \$100, and you know from experience that the value of a case of wine held for t years is $100t^{1/2}$. One hundred cases of wine are available for sale, and the interest rate is 10%. How many cases should you buy, how long should you wait to sell them? (10 points)
4. Tom and Amy decide to do the report together. Tom can find 2 references and type 10 pages a day. Amy can find 6 references and type 20 pages a day. How should they share the work in order to gain maximized benefit? (i.e. who should specialize in finding reference and who should specialize in typing.) Explain your answer. (10 points)
5. Five pirates have just discovered a treasure chest with 100 gold coins and are trying to decide how to split up the coins (no coin may be subdivided). They use the following voting system: Pirate 1 proposes a division (for example, 40 for Pirate 1, 50 for Pirate 2, 5 for Pirate 3, 5 for Pirate 4, 0 for Pirate 5). Then, all 5 of the pirates vote on the proposal. If a majority (50% or above) of the pirates vote for it, the division is carried out. If not, Pirate 1 is thrown overboard (worse than getting no coins at all), and then Pirate 2 can propose a division, and the game continues similarly. The pirates are so cranky that if they are indifferent between voting for or against a proposal, they vote against. What will be the outcome of this game? (i.e. What division should pirate 1 propose?) (10 points)
6. You are running for president of the small nation of Happiness. You promise to cut tax rates, increase transfers and government purchases, reduce the government's budget deficit, and reduce government's debt as a fraction of GDP. If elected, is it possible for you to keep all of your campaign promises in the short run? What about in the long run? (10 points)
7. Assume that, in the short run, there are two types of "shocks" which may cause the level of GDP to deviate from the long run, full employment level: (1) changes in autonomous investment spending; and (2) changes in autonomous money demand. Explain how you reached your results for the following questions. You should feel free to use graphs or equations where appropriate.

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- (1) Suppose that the Fed sticks to money supply targeting: in response to any investment spending or money demand shocks, the Fed will leave the money supply at the predetermined and targeted level. How will this money supply targeting strategy affect the deviations of output from the full employment level under each of the two types of shocks? (5 points)
 - (2) Now suppose that the Fed targets the interest rate: In response to any shocks, it adjusts the money supply to maintain the interest rate at its initial targeted level. How will this interest rate targeting strategy affect the variations of output from the full employment level under each of the two types of shocks? (5 points)
 - (3) If the only source of "shocks" in the economy is autonomous investment spending, should the Fed stick to money or interest rate targets to best stabilize GDP? (5 points)
 - (4) If the only source of "shocks" in the economy is fluctuating autonomous money demand, should the Fed stick to money or interest rate targets to best stabilize GDP? (5 points)
8. (Solow Model) Consider two countries with identical technology parameters and production function $Y = K^\alpha (AL)^{1-\alpha}$. The only difference is that the saving rate is $S_A = 0.05$ and $S_B = 0.2$. $\alpha = 1/3$. How large is the gap in per capita income between A and B? How does your answer change if $\alpha = 0.8$? (5 points)
9. Consider an economy characterized by the following equations:
- $$C = 120 + 0.3 Y_d$$
- $$I = 0.2Y - 1,500i$$
- $$G = 200$$
- $$T = 150$$
- $$M/P = 0.6Y - 1,200i$$
- $$M/P = 90$$
- where investment is endogenous.
- (1) Determine the equilibrium levels of Y and i . (5 points)
 - (2) Describe and show graphically the government's possible policies if it wants to increase output keeping the level of interest rates constant. (5 points)
 - (3) Would a simultaneous increase of 100 in G and T leave the equilibrium output level unchanged? Explain your answer. (5 points)