

國立中央大學103學年度碩士班考試入學試題卷

所別：財務金融學系碩士班 甲組(一般生) 科目：經濟分析 共二頁 第一頁  
財務金融學系碩士班 乙組(一般生)

本科考試禁用計算器

\*請在試卷答案卷(卡)內作答

一、計算問答題 (請依題序作答，未列算式、推理過程或適當說明者，不予計分)

1. Makalu Enterprises specializes in the production of a unique type of ceramic fiber. It is currently the only firm in the market, and it earns \$20 million per year by charging the monopoly price of \$115 per unit. Makalu is concerned that a new firm might attempt to clone its product. This would reduce Makalu's profit to \$4 million per year from next year on. Estimates indicate that, if Makalu increases its output to 30,000 units now (which would lower its price to \$100 per unit), the entrant will stay out of the market and Makalu will earn profits of \$6 million per year for the indefinite future. Does it make sense for Makalu to limit price if the interest rate is 20 percent? (8%)
2. There are two firms producing memory chips in the market with cost curve  $c_i = 60 + 10q_i$ ,  $i=1,2$ . The market demand curve is given by  $Q = q_1 + q_2 = 55 - 0.5P$ .
  - a. Suppose (as in the Cournot model) that two firms choose their levels of output simultaneously. Calculate each firm's best-response (reaction) function. What will be  $q_1$ ,  $q_2$  and  $P$  in equilibrium? How much profit will each firm earn? (8%)
  - b. What would be the Stackleberg equilibrium if firm 1 can move first? (6%)
  - c. If two firms are merged into one company, what will be the price and output? How much profit will it earn? (6%)
3. Consider a firm produces at a marginal cost of \$6 and faces two separate markets. Market 1 has an elasticity of demand of -4 and market 2 has an elasticity of -2. What should the pricing policy be to maximize profits? (8%)
4. Suppose that a person can invest \$10,000 either fully in stocks or fully in bonds. This person believes that there is a 50 percent chance that stocks will yield 21%, but also a 50 percent chance they will yield -19%. He or she also believe that bonds will have a return of 1% for certain. Calculate the certainty equivalent yield for stocks given the utility function  $U(I) = \sqrt{I}$ . What do you conclude about whether this person will invest the \$10,000 in stocks or bonds? (6%)
5. Assume that there are many identical competitive uranium mines, that no more uranium will be sold after the second year because of government ban, and that the marginal cost of mining is zero in each period. Suppose that the demand curve for uranium is  $Q_t = 200 - P_t$  in each year  $t$  and  $Q = Q_1 + Q_2 = 169$ . Given that the interest rate is 10%, what will be the prices and outputs in period 1 and 2? If the interest rate rises, will there be more or less uranium sold in the second year? (8%)

參考用

注意：背面有試題

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二、申論題 (請依題序作答，未列算式、推理過程或適當說明者，不予計分)

1. The economies of two countries, East and West, have the same production functions and depreciation rates. There is no population growth or technological progress in either country. The economies of each country can be described by the Solow growth model. The saving rate in East is 0.3. The saving rate in West is 0.6.
  - a. In which country is the level of steady-state output per worker larger? Explain. (5 分)
  - b. In which country is the steady-state growth rate of output per worker larger? Explain. (5 分)
  - c. In which country is the level of steady-state total output larger? Explain. (5 分)
2. 何謂「量化寬鬆」(quantitative easing) 貨幣政策？請解釋其意義。使用凱因斯總合供需模型，以圖形與文字解釋量化寬鬆政策對於利率、物價水準、與實質所得的影響。(15 分)

三、是非不定題 (注意：僅回答是、非、或不一定，而未解釋理由者，不予計分)

1. 小英是某家台灣商業銀行外派在越南分行工作的台灣人，她在 2013 年所賺得的薪資所得會算入台灣 2013 年的 GDP。(5 分)
2. 小馬開的車是比較耐撞的好車，所以他在高速公路上開車的速度比較快，這個例子可以用「道德危機」(moral hazard) 來解釋。(5 分)
3. 在兩期的消費模型中，實質利率上升將導致第 1 期的消費增加。(5 分)
4. 實證研究顯示，貨幣中立性 (neutrality of money) 是長期與短期的現象。(5 分)

注意：背面有試題

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