總體金融政策、金融機構與市場管理組

國立政治大學九十七學年度研究所博碩士班入學考試命題紙

考試科目	經濟學	所別	金融 4121 4122	考試時間	3月16日 星期日 第3節

1. A consumer has a utility function given by $u(w) = \ln w$, where w denotes income. He is offered the opportunity to bet on the flip of a coin that has a probability π of coming up heads. If he bets \$$x$, he will have $w+x$ if head comes up and $w-x$ if tails comes up.
   (a) Solve for the optimal x that maximizes the person's expected utility. (10 points)
   (b) Will the person accept a sufficiently small bet if he is offered favorable odds? (10 points)

2. There is one nondurable consumption good, of which q_1 is consumed in period 1 and q_2 in period 2. The corresponding prices are p_1 and p_2, and incomes (paid at the beginning of each period) are y_1 and y_2. Let A_0 be the value of assets at the end of period 0 and r_1 and r_2 be the interest rates in the two periods, where interests are paid at the beginning of each period.
   (a) Find a person's lifetime budget constraint. (5 points)
   (b) If the utility function is given by
   $$u = \beta_1 \ln(q_1 - \bar{q}_1) + \beta_2 \ln(q_2 - \bar{q}_2),$$
   where $\bar{q}_1$ and $\bar{q}_2$ are two known constants, derive the Marshallian (ordinary) demands for q_1 and q_2. (10 points)

3. Suppose each firm in a competitive industry has the long-run total cost function
   $$\text{LTC} = 60y - 20y^2 + 2y^3,$$
   and that the demand curve for the industry is
   $$Y^d = 610 - P.$$
   (a) In long-run equilibrium, what are the market price, industry output, the number of firms, and the profit of each firm? (12 points)
   (b) In perfectly competitive industries, economic theory predicts there cannot be relatively large incomes earned in the long run. True, false, or uncertain. Explain your answer. (8 points)

備考	試題隨卷繳交
命題委員：	（簽章） 97年 3月 3日

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4. (a) What is the connection between the Phillips curve and the aggregate supply curve? Explain why the modern theories of the two curves are consistent. (10 points)
   (b) No one is really certain about the level of the natural rate of unemployment in the economy at any moment. Suppose that the fiscal and monetary authorities underestimated the natural rate and pursued policies that would be appropriate for combating cyclical unemployment. What would happen in the short and long run? (10 points)

5. You are given the following IS-LM model for a closed economy, where the consumption function $c(y, r)$, the investment function $i(y, r)$, and the function of demand for money $l(y, r)$ are all assumed to be dependent upon real output y and the interest rate r, and the government expenditure is denoted by g, an exogenous variable. In addition, M/P is the real money balances, where M signifies the supply of money and P the price level.

   (1) $y = c(y,r) + i(y,r) + g$

   (2) $\dfrac{M}{P} = l(y,r)$.

   (a) Check that the slopes of the IS and LM curves have the expected signs. (10 points)
   (b) Derive mathematically the effects on equilibrium output and interest rate of an increase in the supply of money by open market operations. (10 points)
   (c) Under what conditions will money be neutral, i.e., money supply changes have no effect on equilibrium output? Explain the economic implications. (5 points)

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