

考試科目 Course	經濟學(個體)	系級	財政	日期 Date, Period	期 第	月	日	試題編號 Course No.
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吳子夏
個體經濟學

一、簡要評論下列敘述：

- 某正常財(X)不可能為某劣等財(Y)之互補財，因該劣等財(Y)必為該正常財(X)之替代財。(5分)
- CES(Constant elasticity of substitution)效用函數所對應之需求函數具有固定需求彈性。(5分)
- 在一簡單交易經濟體系(pure exchange economy)中僅有的兩人，偏好均符合良好規範(convex-to-the-origin)，即便其中一人現具有獨自設定財貨交易之價格比值之權限，福利經濟學之第二定理仍然成立。(5分)

二、消費者之所得為 M ，效用函數為 $U(x,y,z) = \alpha \log x + \beta \log y + \gamma \log z$ ， $\alpha, \beta, \gamma > 0$ ， $\alpha + \beta = 1$ 。財貨之市場價格分別為 (p_x, p_y, p_z) 。試求出：

- 當所得相當大(以至於產生內部解)，若 p_x 之價格變動，財貨 y 所引發之(Hicks)替代效果為何？(8分)

三、近日產業新聞中，四月四日美國聯邦法官 Jackson 判決微軟(Microsoft)嚴重違反反托辣斯法一案，顯然最受矚目，在判決書中更載明：「(微軟)以阻擾競爭的手段維持壟佔，並意圖壟斷網路瀏覽器市場、、、」，由此可見網路之普及對現代經濟結構之巨大衝擊。

- 若定義網路外部性為「消費某一產品所得之效用會因相容產品之網路使用人數增多而增加」，請以「使用網路人數」為橫軸座標，具有網路外部性之「財貨單價」為縱軸座標，搭配妳(你)所知的基礎經濟概念(如邊際效用遞減、邊際替代率遞減或遞增、Willingness to pay、財貨間的互補或替代等)描繪該財貨之需求曲線(可考慮斜率、截距、轉折、彈性等特性)。(7分)
- 針對此判決所可能採行的懲罰(補救)措施之一為：將微軟分割為數家規模較小且競爭之公司。假設分割為兩家後之成本函數分別為：

$$c_1(q), c_2(q) = 2c_1(q), \text{ 且 } c_1(0) = 0, c_1(q) \text{ 為嚴格凸函數}$$

則在 Cournot 均衡下，該產業(僅含兩家廠商)之生產總成本是否同時已極小化了？(10分)

- 將(b)小題之條件修改為

$$c_2(q) = c_1(q)$$

後，結論是否有所改變？(5分)

- 根據(b)、(c)小題的推論結果，可對「分割」之提議作出何種(有關產業配置效率)判斷？(5分)

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IV. Short-Answer Questions (25 points): Answer only **five** of the following questions. Answer the first two questions (i.e., question 1 and question 2) and any three of the remaining questions. State whether they are *True*, *False*, or *Uncertain*. Explain why using any appropriate diagrams, equations, empirical results, or stylized facts. Be sure to state all pertinent assumptions you are making. Each question is worth five points.

- Whether the money supply in the Keynes system is exogenously or endogenously determined is ambiguous.
- According to Milton Friedman, the measure of economic science is not reality of assumptions but accuracy of predictions.
- A higher interest rate will induce a higher velocity of money.
- For given private saving and investment, the larger the budget deficit, the larger the trade deficit.
- The real business cycle (RBC) theory argues that changes in money supply do not cause major changes in output.
- According to endogenous growth theory, nations with a high savings rate would experience a high long-term growth rate.
- Hyman Minsky's "financial instability hypothesis" (FIH) states that investment is the source of the fluctuations of the economy.
- The marginal propensity to consume out of permanent income is greater than the marginal propensity to consume out of transitory income.

V. Problems (10 points): Answer only **one** of the following questions. Show all your work and the formula you used to arrive at your answer.

- You are given the following simple Keynesian model of an open economy:

$$C = 65 + 0.7Y$$

$$I = 125$$

$$G = 65$$

$$X = 85$$

$$M = 30 + 0.2Y$$

- In equilibrium, does this economy experience a trade surplus or a trade deficit? (5 points)
- If investment falls to $I = 95$, what is the trade balance of this economy? (5 points)

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國立政治大學圖書館

2. (An Endogenous Growth Model) Consider an economy whose production function is $Q = K^\theta (AL)^{1-\theta}$, with $A = 4(K/L)$. Assume that it has a savings rate of 0.2, a population growth rate of 0.1, an average depreciation rate of 0.1, and that $\theta = 0.5$.
- (a) Reduce the production function to the form $q = \alpha k$. [Note: $q = Q/L$ and $k = K/L$.] What is α ? (5 points)
- (b) What is the growth rate of output? (5 points)

三. Essay Questions (15 points): Answer only one of the following questions.

1. (Diagrammatically answer this question) Suppose that the discovery of large oil deposits have substantially increased the world supply of oil (or energy in general). As a result, the relative price of energy falls. Further assume that energy and labor are complements in production. Use the classical model to demonstrate the impact of this change in oil supply on the following variables. Be sure to state all relevant assumptions.

a. price level b. real output c. employment d. real wage e. nominal wage

2. Consider the following fixed price Keynesian model.

$$Y = C(Y - T) + I(r) + G$$

$$\frac{M^d}{P} = L(Y, r + \pi)$$

$$M^s = M$$

Calculate the effect of an increase in taxes on income.