總體經濟學

一、在下列 IS-LM 模式中，較(高/低)的 t 令 IS 曲線變得較(平坦/陡峭)？G 增加所帶來的乘數效果，dY/dG，因而可有較大或較小不同的結果發生嗎？請用數學證明並製圖說明之。(50%)

二、請於下列基本總體模式中證明平衡預算乘數是大於一、小於一；或等於一？（20%）

三、何謂 New & Old Economy? 請比較對照近年在美、日兩國所發生的現象？（30%）

IS-LM Model:

$$Y=C+I+G$$
$$C=a+b(Y-T)$$
$$I=Io-vR$$
$$G=Go$$
$$T=To+tY$$
$$Ms=Mo$$
$$Md=Lo-mR+kY$$

Basic Keynesian Model:

$$Y=C+I+G$$
$$C=a+b(Y-T)$$
$$I=Io+hY \qquad 1>b, h,t>0$$
$$G=Go$$
$$T=To+tY$$

I. True or false: 1~8. Give your explanation shortly. Answers with no explanations will not be scored.

1. A college football coach says that given any two linemen A and B, he always prefers the one who is bigger and faster. Therefore, his preference relation is transitive and complete. (5%)

2. Consider a quantity tax and an income tax, both of which raise the same revenue. The consumer will be worse off under the income tax. (5%)

3. An auction of a Monet's painting to collectors is a private auction. (5%)

4. If the law of diminishing marginal product did not hold, the world's food supply could be grown in a flowerpot. (5%)

5. A person is offered a choice between a gamble that pays $1000 with a probability of 25% and $100 with a probability of 75%, or a payment of 320. If the person is risk-averse, he will take the payment. (5%)

6. Disneyland offers a discount on admissions to the residents of Southern California. This is a third-degree price discrimination. It also implies that the Disneyland administrators believe that residents of Southern California have less elastic demands than other visitors to their park. (5%)

7. Even if your opponent is not playing her Nash equilibrium strategy, I suggest that you should stick to your Nash equilibrium strategy, since it maximizes your payoff by definition. (5%)

8. Suppose that 16 people live on a street and that each of them is willing to pay $3 for each extra streetlight, regardless of the number of streetlights provided. If the cost of providing x streetlights is given by $c(x^3)$, then the Pareto efficient number of streetlights to provide is 4. (5%)

II Answer all questions.

9. Write down the Slutsky equation. (5%)

10. Let w and y be factor prices and output respectively. Prove that the cost

function possesses the property of homogeneous of degree 1 in factor prices, i.e. $c(tw,y) = t\,c(w,y)$ for $t > 0$? (5%)

11. Prove that if production function is CRTS (constant returns to scales), then the cost function may be written as $c(w, y) = y\,c(w,1)$. (5%)

12. If the risk-free rate of return is 6%, and if a risky asset is available with a return of 9% and a standard deviation of 3%, what is the maximum rate of return you can achieve if you are willing to accept a standard deviation of 2%? What percentage of your wealth would have to be invested in the risky asset? (10%)

13. A worker can produce x units of output at a cost of $c(x) = x^2/2$. He can achieve a utility level of $u = 0$ working elsewhere. (a) what is the optimal wage-labor incentive scheme s(x) for this worker? (b) what would the worker be willing to pay to rent the production technology? (c) how would your answer to question (b) change if the worker's alternative employment gave him $u = 1$? (15%)

14. In a 10-person community, an issue is proposed. It regards the public provision of a private good x out of a tax falling on the entire population. (a) if these people have equal incomes, and the community adopts majority rule, what properties are most likely to appear for an issue like above which gets passed? (b)what is the implications of your answer on distribution? (c) if there are 5 equally rich and 5 equally poor people among the 10 persons, and if each person is required to consume a same amount of x since it is publicly supplied and is financed out of proportional income tax, then what would be the implications on allocative efficiency and redistribution? (20%)

每題二十分，共五題，請橫寫由左至右作答，計一百分

(一).Let (X,Y) be a discrete bivariate random vector with range $S=\{(1,1),\ (1,2),\ (1,3),\ (2,1),\ (2,2),\ (2,3),\ (3,1),\ (3,2),\ (3,3)\}$ and density function $f(x,y)=cxy,\ (x,y)\in S$.

(a) What is c ?

(b) Find $P(X+Y\le 4)$.

(二). Let (X,Y) have the joint density function $f(x,y)=3(x^2+y^2)/2$, $0<x<1,\ 0<y<1$. Find the marginal density function of X and the conditional density function of Y given X.

(三).Let X and Y be independent, with $f_1(x)=e^{-x},\ x>0$, and $f_2(y)=e^{-y},\ y>0$. Let $U=(X+Y)^{1/2},\ V=X$. Find the joint density function of U and V.

(四).Let $X_1,\ldots,X_n$ be independent, $n\ge 2$, and $X_i\sim N(\mu,\sigma^2)$, where μ and σ^2 are the unknown parameter. Find the maximum likelihood estimator for μ and σ^2.

(五).Let $X=(X_1,X_2,X_3)'$ have a trivariate normal distribution with means 6, 4, and 2 and variances 16, 25, and 64, and with $\mathbf{cov}(X_1,X_2)=6$ and $\mathbf{cov}(X_1,X_3)=\mathbf{cov}(X_2,X_3)=0$. Let $Y_1=2X_1+3X_2+X_3+2$ and $Y_2=4X_1+X_3+2$. What is the joint density function of Y_1 and Y_2.

國立中山大學八十九學年度碩博士班招生考試試題

科　目：經濟學原理　經濟學研究所碩士班乙　　共 1 頁　第 1 頁

一，問答題(10 分)

什麼是邊際消費傾向(Marginal propensity to consume)? 爲何邊際消費傾向的值介於 0 與 1 之間? 邊際消費傾向的大小對所得乘數(Income multiplier)有什麼影響?

二，問答題(10 分)

爲什麼航空公司每逢旅遊旺季便提高飛機票價格? 而於淡季則降低機票價格? 理由何在?

三，問答題(10 分)

"失業的代價是資源的浪費，而物價膨脹的成本是所得與財富的再分配"，此一說法是否正確?如果失業率之降低與物價膨脹之控制發生衝突的時候，是否應該犧牲物價穩定的目標，以維持高就業率?

四，問答題(10 分)

有一個理論主張工資不過是勞動者與雇主之間彼此議價的結果，而工資最後決定於雙方之相對叫價能力。此一理論是不是好的理論? 如果不是，你認爲工資應如何決定?

五，問答題(10 分)

什麼是公共財貨(Public goods)? 爲什麼公共財貨比較不適宜由私人企業生產供給，較適合由政府提供?

六，問答題(10 分)

如果經濟活動開始產生過熱的現象，而導致物價膨脹的憂慮，中央銀行應採取什麼樣的措施，以減少物價膨脹的壓力?

七，問答題(20 分)

美國反托拉斯法令(Antitrust laws)對於公司擴張太大，而產生壟斷獨占的現象時，政府可以利用公權力強迫大公司分割成幾個小公司，以維持市場之適當競爭。最近美國政府利用反托拉斯法令對微軟公司起訴，如果獨占的事實被證實，微軟公司將面臨被分割之命運。請就競爭、獨占與效率的觀念討論反托拉斯法令之應用於處理微軟公司獨占案件的適當性。

八，問答題(20 分)

著名的電影明星每年可以得到幾百萬甚至幾千萬元的所得，有些棒球球員或傑出的足球健將，每一個球賽季節可獲得幾百萬元的高薪。然而，聰明伶俐、熟練、努力做事的護士每年的薪資所得通常不會超過百萬。

(1)這種懸殊的薪資差異是否是自由市場制度所預期的結果? 或者是反映著市場制度功能的失靈?

(2)你是否贊同上述這些人所得分配之不平均乃是合理的結果? 爲何贊同或爲何反對?

國立中山大學 89 學年度碩(博)士班招生考試試題

科 目：經濟政策(經濟學研究所乙組)　　共 1 頁 第 1 頁

說明：1.本考試共5題，每題20分。
2.回答時，要註明題目號碼；不必按照題目次序回答，不必抄題目。

1.臺灣與中國大陸可能在今年下半年同時加入世界貿易組織。回答下列二個問題。
(1.1)分別討論對我國農業、工業與服務業的衝擊。
(1.2)我國因應措施。

2.去年9月21日臺灣發生近百年來的大地震，除了2000多人失去生命外，還有重大的經濟損失。除了對受害家族提供救助外，我政府在總體經濟方面也應提供一些振興經濟的總體政策。分別就(2.1)財政與(2.2)金融兩大政策，各提出最重要的3點。

3.一般而言，大部分國家的執政黨都喜歡採用財政赤字政策以促進成長；而在野黨則反對此政策，以避免下一代子孫的利息負擔。
(3.1)評論此政策的利與弊。
(3.2)臺灣採取適當政策應考慮的因素。

4.在市場經濟下，每一個國家要訂定一些政策，做爲達到發展目標可運作的方法或工具。說明這些政策在執行計畫上所扮演的角色（列舉4點）。

5.對外經濟發展是促進我國快速經濟發展的重要因素，其中包括(5.1)高科技的產業發展及(5.2)促進對外出口。各列舉3個我國曾實施的重要政策及說明其重點。