

考試科目	財政學 21312, 21362	所別	財政學系	考試時間	2月28日 (Sat.) 第1節
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1. (12%) For each of the statements below, answer "True" or "False" with brief explanations. No credits will be given to answers without explanations.

- (a). (3%) Any existing tax structure does not violate the utility definition of horizontal equity.
- (b). (3%) Any income tax violates the utility definition of horizontal equity.
- (c). (3%) Deductions generally reduce the progressivity of the income tax system.
- (d). (3%) Tax credits generally increase the progressivity of the income tax system.

2. (14%) Consider a Harberger-type general equilibrium model with two goods, food (F) and manufactures (M). There are two inputs, labor (L) and capital (K), used in the production of F and M . All good produced are consumed; there are no savings.

- (a). (5%) Explain why would inputs bear some of the tax when taxing outputs? Consider a tax on F (denoted as t_F) to explain the idea.
- (b). (5%) Use output effect and substitution effect to describe a scenario where a partial factor tax actually raises the relative price of the factor been taxed. For example, consider a tax on the K used in the production of M (denoted as t_{KM}). Explain why even though the tax is on capital, it can make labor worse off.
- (c). (4%) Describe a scenario such that a general tax on K (denoted as t_K) is shared by all the labor L in the economy. [HINT: drop one of the original Harberger's assumptions.]

3. (15%) Use a standard two-period life-cycle model of utility maximization to answer the following questions of a proportional income tax on savings. In answering, follow the instructions below: (1). Use the x -axis for current consumption, denoted as C_0 ; use the y -axis for future consumption, denoted as C_1 . (2). Denote the interest rate as r , and the tax rate as t . (3). Whenever a budget line is drawn, indicate the slope. (4). Consider only the case where the substitution effect dominates the income effect. (5). Let both current consumption and future consumption be normal goods.

- (a). (5%) Draw a figure to show the effect a proportional income tax on the savings of a saver if interest payments are deductible and interest receipts are taxed.

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- (b). (5%) Draw a figure to show the effect a proportional income tax on the (negative) savings of a borrower if interest payments are deductible and interest receipts are taxed.
- (c). (5%) Suppose now interest payments are not deductible but interest receipts are taxed nonetheless. How does this change your answer in (b).
4. (9%) 由財政部主導的「財政健全方案」為行政院毛治國院長列為內閣首要推動的五大政策之一。試說明「財政健全方案」短期稅制調整措施之主要內容。
5. (20%) Eileen does not buy insurance. Thus keep earning \$100,000 and risk losing \$60,000 if the illness happens. The probability of getting sick is 0.2. Although she is willing to pay \$16,000 to buy insurance to guarantee compensation if the illness occur, finally she pays \$14,000. Please provide detailed answers to the following questions.
- Please draw a complete graph to describe above scenario. (5 points)
 - What is the risk premium? (5 points)
 - What is the loading fee? (5 points)
 - What is the actuarially fair insurance premium? (5 points)
6. (30%) 假設小梁的一生只有兩期，現在（第0期，即工作期）與未來（第1期，即退休期）。她現在有 I_0 的勞動所得，並知道在未來會有 I_1 的退休所得。在效用極大化的決策下，小梁決定在工作期的消費 c_0 小於 I_0 （即有儲蓄）。倘若政府推行社會安全（Social Security）制度，要求小梁在工作期支付 T 的社會安全稅，並在退休期可以領回 $(1+r)T$ 的收益（假設 r 等於市場存款利率 i ）。
- 請繪圖說明，政府推行社會安全制度會如何影響小梁的儲蓄行為？（10%）
 - 倘若社會安全稅的隱含報酬率（implicit rate of return） r 大於市場存款利率 i ，請繪圖說明此情況將會如何改變 A 小題的結果？（10%）
 - 何謂退休效果（retirement effect）？請說明在考量退休效果下，政府推行社會安全制度對小梁儲蓄行為的影響？（5%）
 - 何謂遺贈效果（bequest effect）？請說明在考量遺贈效果下，政府推行社會安全制度對小梁儲蓄行為的影響？（5%）