

請按題目順序作答，若無法作答者，請填寫題號後空白，
未按順序作答者，將扣總分 20 分，敬請遵守規定!

一、(40%) Consider this model that the household lives for two time period, $t = 1, 2$. The household's preference function is: $U(c_1, c_2) = u(c_1) + \beta u(c_2)$ where c_1, c_2 denote as the consumption for the first and second period. β is the discount factor. The household's budget constraints are

$$Py_1 = Pc_1 + b_1 \text{ in period 1 and}$$

$$Py_2 + b_1(1 + R) = Pc_2 \text{ in period 2,}$$

where b_1 is the first period bond holding, P is the price level and R is the interest rate. Assume $U(c_1) = \ln(c_1)$ and $U(c_2) = \ln(c_2)$.

- (1)(10%) What is the optimal consumption for the first period?
- (2)(10%) How about the consumption for the second period if the interest rate goes up?
- (3)(10%) What is the optimal demand for bond?
- (4)(10%) What is the interest rate that clears the bond market?

二、(30%) Consider a household with a utility function over consumption C and effort L of the form: $U(C, L) = 2\sqrt{C} - L$. The household's income takes the form: $y(L) = wL$ where w is the wage rate. Assume the tax policy is $H(L, \tau) = \tau y(L)$.

- (1) (10%) What is the government revenue function?
- (2) (10%) Does this system exhibit a Laffer curve?
- (3) (10%) Now if the government introduces a lump-sum tax of amount, τ_L , does this system exhibit a Laffer curve?

參考用

注意：背面有試題

國立中央大學104學年度碩士班考試入學試題

所別：產業經濟研究所碩士班 產業經濟組(一般生) 科目：總體經濟學 共 2 頁 第 2 頁

本科考試禁用計算器

*請在答案卷(卡)內作答

三、(30%) In the book "*Capital in the Twentieth Century*" written by Thomas Piketty, please answer the questions using the following notation:

Y is the national income, K is the capital stock, r is the real rate of return on capital, s is the saving rate, g is the growth rate of Y , \dot{K} is the time derivative of K , and \dot{Y} is the time derivative of Y .

- (1) (10%) What is the *First Fundamental Law of Capitalism*?
- (2) (10%) What is the *Second Fundamental Law of Capitalism*?
- (3) (10%) What are good reasons to think that in the 21st century?

參考用

注意：背面有試題