



國 立 清 華 大 學 命 題 紙

97 學年度 經濟學 系(所) 組碩士班入學考試

科目 總體經濟學 科目代碼 4602 共 2 頁第 2 頁 \*請在【答案卷卡】內作答

PART II:

Note:

Keep your answers concise. There will be negative points for either wrong or unrelated arguments. Be precise and specific about your arguments.

(15%) 4. Consider the Solow growth model with Cobb-Douglas production function. There is no technological growth and the capital share equals 0.3. The population growth rate is 3%, the depreciation rate equals 0.05, and the economy save 30% of its output. Please answer the following question:

John Ramírez is the new president of this economy. Mr. Ramírez wants higher per capital GDP growth during his presidency. Somehow, he decides to pursue policies aimed at raising the rate of saving to 40% in order to increase the capital per capita. Suppose that these policies succeed and at time  $t_0$  the saving rate increases from 30% to 40%. Please draw graphs that show how *output per worker*, *capital per worker*, *investment per worker*, and *consumption per worker* change over time as the economy moves to the new steady state. Please describe the graph you draw.

(25%) 5. A representative household lives for two periods, today ( $t=0$ ) and tomorrow ( $t=1$ ). The household earns 170 units of goods today ( $y_0 = 170$ ) and 110 units of goods tomorrow ( $y_1 = 110$ ). The real interest rate ( $r$ ) equals 10%. Suppose that the utility function is given by  $\log(c_0) + \log(c_1)$ . Remember that  $c_0$  and  $c_1$  represent consumption today and tomorrow. Assume that the representative household would like to maximize its utility.

(15%) 5.1. Think about the case that the real interest rate rises from 10% to 50%. Please indicate what happen to the saving (in number) at time  $t=0$ . Please also describe how the economic forces (effects) interact on saving as the real interest rate increases from 10% to 50%.

(10%) 5.2. Richardian Equivalence proposition suggests that "in the long run, all government's purchases must be paid by taxes." Under this assumption, if government's spending does not change, a cut in current taxes can affect the timing of tax allocation but not the ultimate tax burden borne by consumers. Please use the above model to show that debt-financed tax cut leaves consumption unaffected.

(10%) 6. Milton Friedman, the Nobel Prize laureate in 1976, wrote that "inflation is always and everywhere a monetary phenomenon." Please use an economic theory to demonstrate how you can link the inflation rate to the money growth rate. (Please also explicitly name the economic theory you use.)