


注意：考試開始鈴響前，不得翻閱試題，  
並不得書寫、畫記、作答。

國立清華大學 108 學年度碩士班考試入學試題

系所班組別：經濟學系

考試科目(代碼)：總體經濟學(4602)

### — 作答注意事項 —

1. 請核對答案卷(卡)上之准考證號、科目名稱是否正確。
2. 作答中如有發現試題印刷不清，得舉手請監試人員處理，但不得要求解釋題意。
3. 考生限在答案卷上標記「由此開始作答」區內作答，且不可書寫姓名、准考證號或與作答無關之其他文字或符號。
4. 答案卷用盡不得要求加頁。
5. 答案卷可用任何書寫工具作答，惟為方便閱卷辨識，請儘量使用藍色或黑色書寫；答案卡限用 2B 鉛筆畫記；如畫記不清(含未依範例畫記)致光學閱讀機無法辨識答案者，其後果一律由考生自行負責。
6. 其他應考規則、違規處理及扣分方式，請自行詳閱准考證明上「國立清華大學試場規則及違規處理辦法」，無法因本試題封面作答注意事項中未列明而稱未知悉。

# 國立清華大學 108 學年度碩士班考試入學試題

系所班組別：經濟學系(0546)

考試科目（代碼）：總體經濟學(4602)

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Part 1:

1. Let  $Y^T$ ,  $Y$ ,  $i$  and  $i^e$  respectively denote the trend real aggregate output, the actual real aggregate output, the inflation rate and the expected inflation rate. The Friedman-Lucas money surprise model can be summarized by the simplified Phillips Curve relationship  $i - i^e = \alpha(Y - Y^T)$ , where  $\alpha$  is a positive constant.

(a) Please draw the simplified Phillips Curve and apply the diagram to explain why policymakers' attempts to exploit the Phillips curve may lead to a permanent increase in inflation and at best a temporary increase in aggregate output. (12 points)

(b) Suppose a country has  $\alpha = 0.7$  in the 1980-2005 period and  $\alpha = 0.1$  in the 2005-2018 period. What is the implication when  $\alpha$  becomes lower? (10 points)

2. Consider a small open country A which is, as a whole, a price taker on world markets. Let all domestically produced goods sell at a price  $P$ , in terms of domestic currency, and all foreign produced goods sell at a price  $P^*$ , in terms of foreign currency.

Figure 1. The goods market.

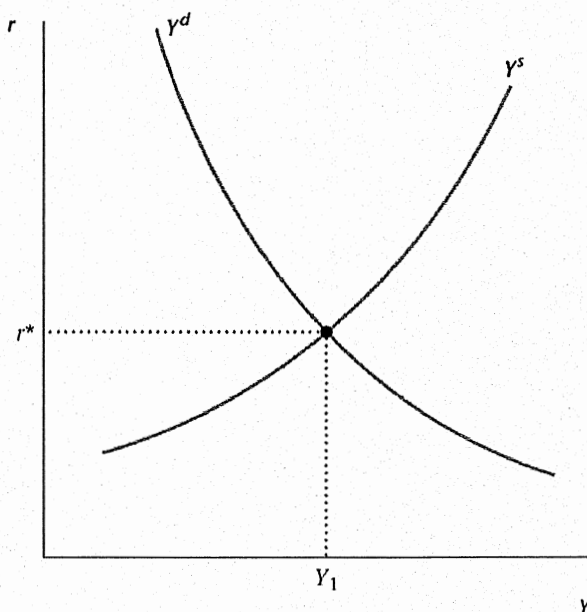


Figure 1 exhibits that the demand curve  $Y^d$  and supply curve  $Y^s$  determine the domestic real output  $Y$  and real interest rate  $r$ , where  $r^*$  is the world interest rate and  $Y_1$  is the equilibrium real output.

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Figure 2. The money market.

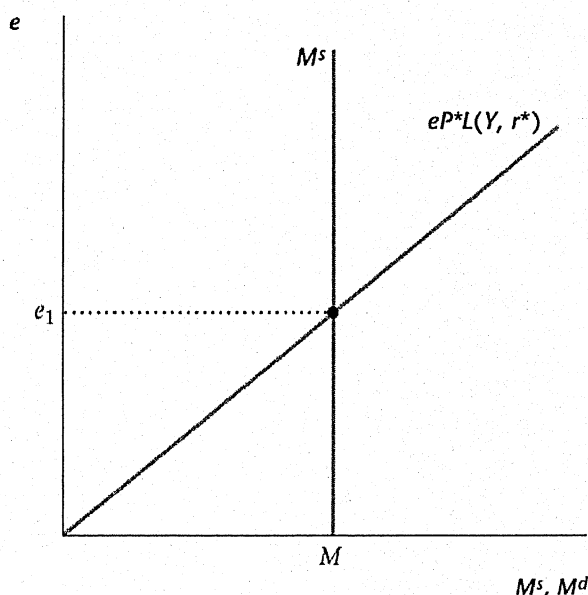


Figure 2 shows the country A's money market equilibrium, where  $e$  denotes the price of one unit of foreign currency in terms of domestic currency,  $M^s$  and  $M^d$  respectively is the domestic nominal money supply and money demand, and  $L(Y, r^*)$  is the demand for real money balances. Assumed that  $(\partial L / \partial Y) > 0$ ,  $(\partial L / \partial r^*) < 0$ , and real money demand is much more responsive to real income than to the interest rate. In addition, let domestic inflation rate be zero and  $eP^* = P$ .

Please take Figure 1 and Figure 2 as the initial equilibrium and apply them to answer the following questions.

(a) Suppose that country A is under a flexible exchange rate regime. Explain how a shock of an increase in  $r^*$  impacts on country A's real output, nominal exchange rate and domestic price level. (9 points)

(b) Suppose that the government of country A stands ready to exchange foreign currency for domestic currency at the exchange rate  $e_1$  as in Figure 2. Explain how a shock of an increase in  $r^*$  impacts on country A's real output, nominal exchange rate and domestic price level. (9 points)

(c) According to your analysis of (a) and (b), what is the policy implication for adopting either flexible or fixed exchange rate regime? (10 points)

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Part 2:

Question 1 (18 points)

Taiwan's growth from the 1960s to the 1990s was much faster than the world average. Some scholars attribute such growth miracle to the rising labor participation rate as more women entering the labor market. However, other scholars claim that the growth in total factor productivity is important in sustaining Taiwan's long-term growth.

1.1. (6 points) Please use a diagram to illustrate the change of the labor market equilibrium due to an increase in the labor participation rate.

[Hint] Please describe how the equilibrium price and quantity change in a graph and in words.

1.2. (6 points) Please use a diagram to illustrate the change of the labor market equilibrium due to an increase in the productivity.

[Hint] Please describe how the equilibrium price and quantity change in a graph and in words.

1.3. (6 points) Based on the fact that wages increased during this period, please clearly point out which view about the sources of growth (i.e., rapid factor accumulation or high productivity growth) is supported by this labor market fact. Moreover, please justify your answers.

Question 2 (18 points)

Taiwan's savings rate during 1974 to 1987 is above 30%, which is much higher than the savings rate nowadays.

2.1. (6 points) Please use the Solow diagram to illustrate the change of the steady state output per capita due to a one-time and permanent decrease in the savings rate. Please also describe the changes in words.

2.2. (6 points) Please draw a graph to illustrate the transition (i.e., changes overtime) of investment per capita implied by the Solow model due to a one-time and permanent decrease in the savings rate. Please also describe the changes in words.

[Hint]: Please assume that the economy was at the steady state before the savings rate decreases. Please also assume that the savings rate decreases at the 5<sup>th</sup> period for illustration purpose.

2.3. (6 points) Based on the Solow model, is such a change in the savings rate (i.e. a decrease in savings rate) welfare improving?

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Question 3 (14 points):

A representative agent, *Maggie*, lives for two periods. *Maggie* owns a salt field, which produces 360 units of salt for the first period ( $Y_0=360$ ) and 420 units of salt for the second period ( $Y_1=420$ ). *Maggie* chooses her *consumptions* ( $C_0, C_1$ ) for the two periods according to the rule:  $C_1 = C_0 \cdot (1 + r)$ . Salt is used as a medium of exchange in this economy.

Let's assume *Maggie* faces real interest rate  $r$  ( $r = 5\%$ ). Please answer the following questions based on the Two-period model of consumption.

3.1. (5 points) If *Maggie* live in a community with a primitive financial market such that she cannot borrow but can only lend (deposit), please discuss whether the underdeveloped financial market prevents her from pursuing the optimal consumption.

3.2. (9 points) If *Maggie* happened to find that she has an access to a black market that gives an interest rate of 20% for borrowing and lending, please describe how the interest rate change affects *Maggie's* saving behavior, i.e., how  $(Y_0 - C_0)$  changes. Moreover, please justify your answer using the concept of the income effect and the substitution effect.