

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 113 學年度碩士班考試入學試題

系所班組別：經濟學系

科目代碼：4602

考試科目：總體經濟學

— 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. 考試開始後，請於作答前先翻閱整份試題，是否有污損或試題印刷不清，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。

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Part I

1. Short questions [30 pts]

- (a) Please provide intuition for the neutrality of money in the neoclassical model? Is monetary neutrality a good benchmark when thinking about the real world.
- (b) Please explain Okun's law. In particular, how can a policy maker utilize Okun's law for conducting better policy.
- (c) Explain, in words, what is meant by the convergence hypothesis. What feature of the Solow model gives rise to the prediction of convergence?
- (d) Suppose the central bank intends to contract the money supply. Explain what action it should take to accomplish this objective and how this action affects the balance sheets of banks and the central bank.
- (e) Please explain the concept of asymmetric information. Provide a real world example to illustrate the consequences of asymmetric information on market economy.
- (f) Define the meaning of Ricardian neutrality of fiscal policy. List one case where Ricardian equivalence fails.

2. [10 pts] Consider a standard Solow model with a Cobb-Douglas production function and both labor augmenting productivity growth and population growth. The central equation of the model is:

$$\hat{k}_{t+1} = \frac{1}{(1+z)(1+n)} (sA\hat{k}_t^\alpha + (1-\delta)\hat{k}_t)$$

where \hat{k} is the capital stock per effective unit of labor; s is the saving rate; A is a measure of productivity which is assumed to be constant over time; α is capital share parameter of the production function; δ is the depreciation rate of capital; z is the exogenous growth rate of the labor augmenting productivity; n is the exogenous growth rate of population. Assume that the values of n and z are small. Consumption per effective unit of labor is given by

$$\hat{c}_t = (1-s)A\hat{k}_t^\alpha.$$

Please derive an expression for the value of s which maximizes steady state consumption per effective unit of labor.

3. [10pts] Consider a two-period problem of the representative consumer and assume the consumer has current-period net income $y - t = 0$, and future-period net income $y' - t' = 110$, and faces a market real interest rate of $r = 0.1$. The representative consumer seeks to maximize her/his lifetime utility, which is given by

$$U = \min \{c, c'\},$$

where c and c' are current-period and future-period consumption, respectively.

- (a) Calculate the consumer's lifetime wealth.
- (b) Calculate the consumer's optimal current and future consumption. Is the consumer a lender or a borrower.

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Part II

選擇題：每題 3 分

1. Which of the following portfolio allocation decisions represents the best individual response to an increase in the interest rate on nonmonetary assets?
 - (a) Sell some stocks and use the money to buy bonds.
 - (b) Sell some bonds and use the money to buy stocks.
 - (c) Buy some nonmonetary assets with cash.
 - (d) Sell some nonmonetary assets
2. Suppose the money market has an equilibrium interest rate of 4 percent. If the actual interest rate is 1.5 percent, which of the following can bring the money market back to equilibrium?
 - (a) People buy bonds, the price of bonds rises, and the interest rate rises.
 - (b) People buy bonds, the price of bonds falls, and the interest rate rises.
 - (c) People sell bonds, the price of bonds rises, and the interest rate rises.
 - (d) People sell bonds, the price of bonds falls, and the interest rate rises.
3. If the income elasticity of money demand is 0.75 and the interest elasticity of money demand is -0.25, by what percent does money demand rise if income rises 10% and the nominal interest rate rises from 4% to 5%?
 - (a) 7.50%
 - (b) 1.25%
 - (c) 1.5%
 - (d) 5%
4. According to real business cycle theory, which of the following is not a primary cause of business cycle fluctuations?
 - (a) A change in the money supply
 - (b) A change in the production function
 - (c) A change in the size of the labor force
 - (d) A change in the real quantity of government

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5. Global warming has caused a permanent increase in the rate of capital depreciation. According to Solow model, this would cause
- (a) an increase in the capital-labor ratio.
 - (b) output per worker to fall.
 - (c) a decline in labor force.
 - (d) the capital-labor ratio to be unaffected.
6. The GDPs of country ABC and country XYZ are equal, but GDP in country XYZ is less volatile than GDP in country ABC. Both have borrowed \$100 billion that must be repaid next year. Which of the following is correct in terms of the probabilities of default?
- (a) Both ABC and XYZ have the same probability of default.
 - (b) ABC's probability of default is higher than XYZ's probability of default.
 - (c) XYZ's probability of default is higher than ABC's probability of default.
 - (d) Based on probability, XYZ will default.
7. According to the Balassa-Samelson model, country A is experiencing productivity growth. When compared to other countries with lower productivity growth, we expect to see:
- (a) wages and incomes falling in country A and its exchange rate appreciating.
 - (b) wages and incomes falling in country A and its exchange rate depreciating.
 - (c) wages and incomes rising in country A and its exchange rate appreciating.
 - (d) wages and incomes rising in country A and its exchange rate depreciating.
8. When the central bank engages in sterilization of reserves, it is:
- (a) buying reserves to offset the purchase of government bonds.
 - (b) selling reserves to offset the sale of government bonds.
 - (c) selling reserves to offset the purchase of government bonds.
 - (d) printing more money.

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9. Keynesians contend that in a recession caused by a decline in aggregate demand, a policy of increasing the nominal money supply would
- (a) raise the level of aggregate demand, which would help return the economy to full-employment output.
 - (b) lower the level of aggregate demand, which would help return the economy to full-employment output.
 - (c) shift the LM curve to left, which would help return the economy to full-employment output.
 - (d) not affect the position of the LM curve, because the real money supply would not change.
10. Suppose that Country AT pegs its currency (the peso, ARS) to the U.S. dollar. Currently, the exchange rate is $\text{ARS}800 = \$\text{US}1$. Suppose that the country AT's money multiplier is 1. How does the country AT central bank maintain the pegged exchange rate of $\text{ARS}800 = \$\text{US}1$?
- (a) It sells dollars (for the peso) in foreign exchange markets whenever the $\text{ARS}/\$$ US rate falls below $\text{ARS}800 = \$\text{US}1$.
 - (b) It buys dollars (with peso) in foreign exchange markets whenever the $\text{ARS}/\$$ US rate rises above $\text{ARS}800 = \$\text{US}1$.
 - (c) It sells the peso (for dollars) in foreign exchange markets whenever the $\text{ARS}/\$$ US rate rises above $\text{ARS}800 = \$\text{US}1$.
 - (d) It buys the peso (with dollars) in foreign exchange markets whenever the $\text{ARS}/\$$ US rate rises above $\text{ARS}800 = \$\text{US}1$.

簡答題

1. In the expectations-augmented Phillips curve, $\pi = \pi^e - 3(u - 0.06)$, where π is the inflation rate, π^e is the expected inflation rate and u is the unemployment rate. When $\pi = 0.06$ and $\pi^e = 0.03$, what is the value of the unemployment rate? (4分)
2. (a) Describe Uncovered Interest Parity (UIP). (3分)
- (b) In a fixed exchange rate regime, what is the relationship between home country interest rate i and foreign country interest rate i^* when UIP holds? (3分)
3. Please use IS-LM model to analyze each of the following changes, what happens to the real interest rate and output in the very short run, before the price level has adjusted to restore general equilibrium? (每題兩分)
- (a) Expected inflation rises.
 - (b) Wealth declines.
 - (c) Quantitative easing.
 - (d) An innovation increases the future marginal productivity of capital.
 - (e) Future income rises.