

所別：經濟學系碩士班 科目：總體經濟學

一、是非題：每題 6 分，共 48 分。請先回答是或非，再寫理由；不寫理由，以零分計。第 (1) 至第 (6) 題須繪圖；沒繪圖亦以零分計。

- 1) If unemployment is caused by a binding minimum wage, then, other things equal, the unemployment rate rises when people raise their reservation wages.
- 2) It is possible that deflation is costless.
- 3) Other things equal, the short-run equilibrium real GDP level will decrease if people expect that the general price level will rise.
- 4) Suppose that the interest rate is determined by the supply and demand for loanable funds. Other things equal, both the interest rate and national investment increase with government spending.
- 5) According to the IS-LM model, the larger the crowding-out effect (in absolute terms), the larger the effect of an increase in money supply on domestic income.
- 6) According to the AD-AS model, the short-run equilibrium general price level falls to a greater extent than the long-run equilibrium general price level if the technology improves.
- 7) If the base year changes, the inflation rate measured by CPI remains unchanged.
- 8) The economic growth rate of Taiwan in 2001 went negative because that the net export decreased.

二、申論及計算題：

1. Consider the following Keynesian model:

$$S = -70 + 0.5Y_d$$

$$I = 240 - 10R$$

$$G = 190$$

$$T = -20 + 0.2Y$$

$$NX = 165 - 0.25Y_d$$

$$M = 1000$$

$$L = 500 + Y - 10R$$

$$P = 1$$

where Y is real income, S is private saving, Y_d is disposable income, I is investment, G is government spending, T is net tax, NX is net export, R is interest rate, M is nominal money stock, L is the demand for real balances, and P is price. Assume that the long-run real income (potential real GDP) is $Y_{LR} = \$600$ and aggregate supply is perfectly elastic at $P=1$.

- a) (10 分) Write down the consumption as a function of disposable income. What is the equilibrium level of real income?

注意：背面有試題

所別：經濟學系碩士班 科目：總體經濟學

- b) (2分) If the autonomous consumption spending increases by \$90, how much change would occur in the equilibrium real income and equilibrium interest rate?
- c) (5分) What is the appropriate counter-cyclical fiscal policy with balanced budget for this economy to remain on its long-run real income path?
- d) (5分) Suppose that the government does not want to adopt a counter-cyclical fiscal policy as in (c). Instead, the central bank adopts a monetary policy to achieve the long-run real income. What is the target level of money supply the economy's central bank should set? Calculate the equilibrium interest rate R under this policy.
- e) (5分) Plot the IS-LM diagrams to indicate the original equilibrium and the new equilibrium for the counter-cyclical policy in (c) and (d), respectively. Explain the main differences between these two policies.
2. Consider a two-period model in which each individual maximizes his lifetime utility $U(C_1, C_2)$, where C_1 and C_2 are the consumption levels in the first and second periods, respectively. Let Y_1 and Y_2 be the individual's income in the first and second periods, respectively. The lump-sum tax is T_1 in the first period and T_2 in the second period. Let R denote interest rate. All variables are in real terms. Suppose that the lifetime utility has the following form:
- $$U(C_1, C_2) = 2 C_1^{1/2} + 2 C_2^{1/2} / (1+b), \text{ where } b > -1.$$
- a) (2分) Write down the individual's lifetime budget constraint.
- b) (8分) Assume for simplicity that $Y_2 = T_1 = T_2 = 0$. Derive the individual's optimal consumption in the first period.
- c) (5分) Continue from (b). What's the impact on saving in the first period when the interest rate R rises? What is the intuition behind this result?
- d) (5分) Continue from (b). What's the impact on saving in the first period when b rises? What is the intuition behind this result?
- e) (5分) Return back to the general case that Y_1, Y_2, T_1 , and T_2 are all nonzero. Suppose the government reduces taxes in period 1 but raises taxes in period 2. How does this change the saving behavior?