UNIVERSITY OF LONDON

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BSc degrees and Diplomas for Graduates in Economics, Management, Finance and the Social Sciences, the Diploma in Economics and Access Route for Students in the External Programme
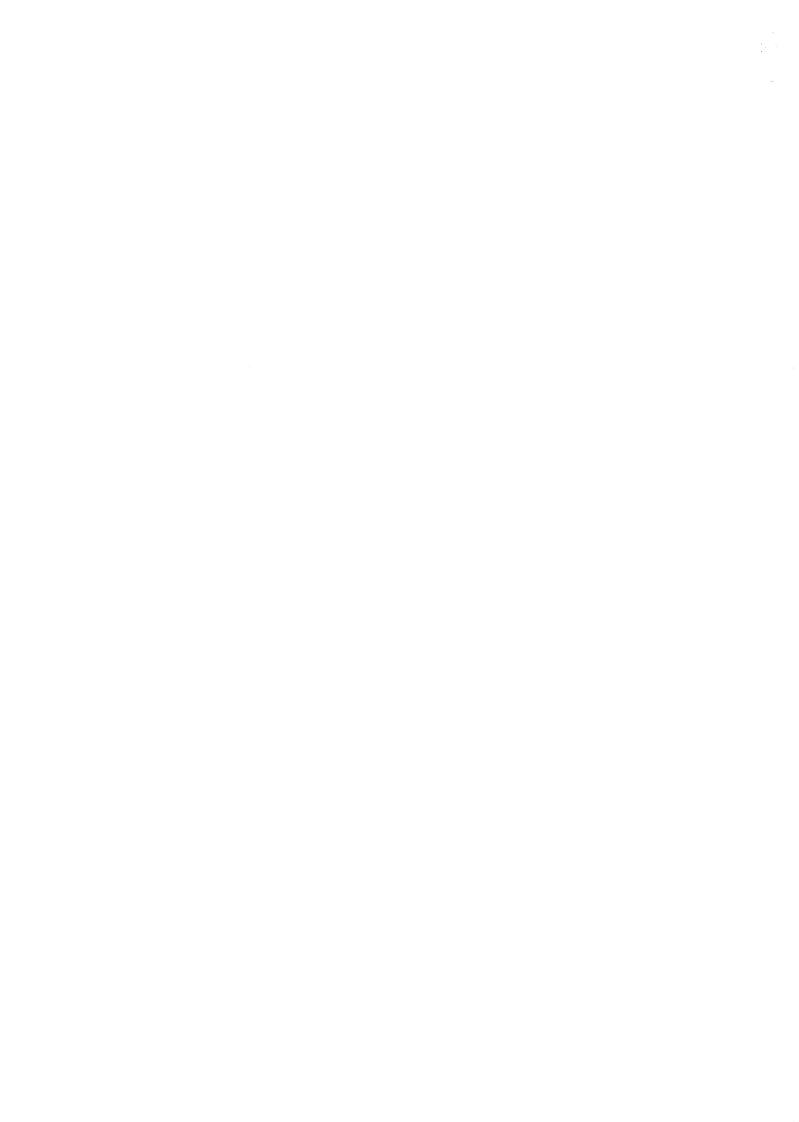
Macroeconomics

Thursday, 8 June 2006 : 2.30pm to 5.30pm

Candidates should answer **EIGHT** of the following **FOURTEEN** questions: **FIVE** from Section A (5 marks each) and **THREE** from Section B (25 marks each). **Candidates are strongly advised to divide their time accordingly.**

SECTION A

Answer **five** questions from this section (5 marks each).

1. 'In a closed economy, a balanced-budget increase in government spending will reduce investment but leave private saving unchanged in equilibrium.' True or false? Briefly explain your answer.

2. 'The growth rate of nominal income is necessarily equal to the growth rate of the money supply.' True or false? Briefly explain your answer.

3. 'For a small, open economy with **flexible** wages and prices, a rise in foreign countries' income will lead to an increase in net exports in equilibrium.' True or false? Briefly explain your answer.

4. 'If investment depends positively on income, the Aggregate Demand curve will be flatter.' True or false? Briefly explain your answer.

5. 'In the Solow model of economic growth, a common rate of technological progress will imply that all countries will converge to the same steady-state level of output per head.' True or false? Briefly explain your answer.

6. 'A fall in shoe-leather costs (defined as the costs of walking to the bank to take out some cash) will lead to an increase in money demand.' True or false? Briefly explain your answer.

SECTION B

Answer **three** questions from this section (25 marks each). Each subquestion carries equal weight.

7. Answer **each** of the following:

    (a) What are the main components of unemployment? What is the natural rate of unemployment?

    (b) 'The natural rate of unemployment is independent of the conduct of monetary policy.' Evaluate this statement.

    (c) What is the Phillips Curve? What determines its slope?

8. Consider the Solow growth model.

    (a) Assume positive population growth (n>0) and technological progress (g>0). Derive analytically the steady-state growth rates of output and capital, and the steady-state levels of output and capital per efficiency unit of labour. Illustrate your answer graphically and briefly discuss the economic intuition.

    (b) For simplicity, assume now that there is no technological progress (g=0). Assume that $Y= K^{1/2}L^{1/2}$, s=0.25, δ=0.1, n=0.025, where Y, K and L are output, capital and labour respectively, s is the savings rate and δ is the depreciation rate. What are the steady-state levels of capital, output and consumption per worker? What would be the savings rate that maximised consumption per worker in the steady state?

    (c) In what sense is output growth in the steady-state of the Solow model 'exogenous'? Briefly outline how some other models make such growth 'endogenous'?

9. Answer **each** of the following:

    (a) Use the Fisher model of intertemporal consumption choice to illustrate the concept of Ricardian Equivalence. Be careful to state explicitly any assumptions needed for the Ricardean Equivalance proposition to hold.

    (b) 'Individuals actually **do** have infinite horizons, since they care about their children.' Evaluate this statement and its implications for the Ricardean Equivalence proposition.

    (c) 'If the Ricardean Equivalence proposition holds, fiscal policy is ineffective as a tool for aggregate demand management.' Evaluate this statement.

2

10. Consider a small open economy with fixed wages and prices, and assume perfect international capital mobility.

   (a) Describe analytically, and illustrate graphically, the internal and external equilibria of the economy. Be careful to state any assumptions clearly.

   (b) Suppose investment depends only on the interest rate, $I=I(r)$, and consider an increase in the world interest rate. Describe the effects on output, investment, consumption and net exports, analysing separately the fixed and flexible exchange rate regimes.

   (c) How, if at all, do your answers to (b) change if investment also depends positively on income, *i.e.* $I=I(r,Y)$? State explicitly where the effects on a variable are ambiguous.

11. Answer **each** of the following.

   (a) What are the main determinants of the money supply?

   (b) What are the main determinants of money demand?

   (c) 'If money demand is independent of the interest rate, monetary policy is ineffective.' Evaluate this statement.

12. Answer **each** of the following.

   (a) Using the sticky-wage model of the labour market, derive a short-run aggregate supply (SRAS) curve. Be careful to explain what determines the slope of the SRAS curve.

   (b) Assume nominal wages are indeed sticky. Assume further that business-cycle fluctuations are due to aggregate demand (AD) shocks. Using your answer to part (a), derive the implications for the cyclical behaviour of **real** wages. In particular, will the real wage be positively or negatively correlated with output?

   (c) Now suppose that nominal wages are flexible. Assume that the AD curve is stable and that the business cycle is instead driven by shocks to productivity. Now what is the cyclical behaviour of the **real** wage? (*Hint*: think about what happens to the labour demand curve when productivity goes up or down.)

13. Answer **each** of the following.

    (a)   Briefly explain the Policy Ineffectiveness Proposition, making sure to state explicitly the conditions under which it holds.

    (b)   Briefly explain the problem of time inconsistency in the context of monetary policy.

    (c)   'Because of the problem of time inconsistency, the best way to conduct monetary policy is via a fixed rule that keeps the rate of money growth constant.' Evaluate this statement.

14. Consider a closed economy with fixed wages and prices, with the aggregate price level P equal to one. Suppose the consumption function takes the form $C = 200 + 0.5(Y-T)$, where C is consumption, Y is income, and T denotes lump-sum taxes. Meanwhile the investment function takes the form $I = 400 - 20r$, where I is investment and r is the real interest rate. Money-market equilibrium is defined by the equation $M = 100 + 0.4Y - 40r$, where M is the nominal money supply. Note that M is also the real money supply, since P=1. Initially M=200 and G=T=100, where G denotes government spending.

    (a)   Explain the forms taken by the consumption and investment functions, and depict the equilibrium of the economy graphically. What determines the slopes of the IS and LM curves?

    (b)   Find the initial, equilibrium levels of output, consumption, investment and the interest rate.

    (c)   Suppose that the government controls both fiscal and monetary policy. In other words, it chooses M, G and T. It wishes to increase output from its initial level by 200, but wishes to keep the budget in balance and investment unchanged. Describe in detail a combination of policies that the government could undertake to achieve its goal.

END OF PAPER

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