

OLLSCOIL NA hÉIREANN  
THE NATIONAL UNIVERSITY OF IRELAND, GALWAY

SUMMER EXAMINATION 1999

**M.A. & M.Econ.Sc. Degree Examination**

**MACROECONOMICS**

(EC500 Paper 5 abd EC502)

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**Both Sections A and B are to be answered. Use separate scripts for each section.**

**Section A (100 marks)  
Answer Two Questions**

- 1 In the new classical theory of inflation, time inconsistency and credibility are two problems said to characterise monetary policy. Discuss
- 2 Outline the behaviour of aggregate consumption under the assumption of certainty and positive interest and discount rates.
- 3 Comment briefly on any three of the following:
  - (a) Convergence
  - (b) Scale effects in growth theory
  - (c) The Cambridge equation
  - (d) Technical progress
  - (e) Value of waiting in relation to investment expenditure
  - (f) Fiscal policy and the slope of the BP curve in a small open economy with a flexible exchange rate
- 4 The key properties of endogenous growth models is the absence of diminishing returns to capital. Comment

Section B (100 marks)  
Answer Two Questions

1 Consider the following market clearing economy where wages are partially indexed to prices. All variables are expressed in logs.

$$y^d = m - p \quad (1)$$

$$y^s = s + \alpha l \quad (2)$$

$$p = w + (1-\alpha)l - s \quad (3) \quad 0 < \alpha \leq 1$$

$$w = \Theta p \quad (4) \quad 0 \leq \Theta \leq 1$$

$y^d$  = aggregate demand,  $y^s$  = aggregate supply,  $m$  = monetary variable,  $p$  = prices,  $l$  = level of employment,  $s$  = supply shock,  $w$  = wages,  $\Theta$  = level of indexation.

- Solve for  $l$ ,  $p$ ,  $w$  and  $y$  (equilibrium output) as functions of  $m$ ,  $s$  and the parameters  $\alpha$  and  $\Theta$ .
- Discuss the effects of indexation on wages, employment and output when the economy is subject to monetary shocks.
- Discuss the effects of indexation on wages, employment and output when the economy is subject to real shocks.

2 Consider the following one person, two period, household objective function

$$U = \ln c_1 + b \ln (1-l_1) + e^{-P} (\ln c_2 + b \ln (1-l_2))$$

subject to the following lifetime budget constraint

$$c_1 + \frac{1}{1+r} c_2 = w_1 l_1 + \frac{1}{1+r} w_2 l_2$$

where  $c$  = consumption,  $l$  = labour supply and  $w$  = wage rate  
 $p$  = discount factor,  $r$  = rate of interest and 1,2 are time periods.

- Show that when you solve this optimisation problem you get:

$$\frac{1-l_1}{1-l_2} = \frac{1}{e^{-P}(1+r)} \frac{w_2}{w_1}$$

- What happens to relative labour supply in both periods when: (i)  $w_1$  rises relative to  $w_2$ ; (ii)  $r$  rises and (iii)  $w_1$  and

w2 rise by the same proportion. What is the intuition behind these results?

- c What are the strengths and weaknesses (theoretical and empirical) of the Real Business Cycle analysis of economic cycles?
- 3
- a Co-ordination failures can give rise to multiple Pareto ranked equilibria. Explain and give examples.
  - b Give some rational microeconomic explanations for nominal price rigidities. What are the macroeconomic implications of such rigidities?
- 4
- a According to Dasgupta and Ray, when productivity is a function of nutrition, radical land reform will increase overall output in such economies. How? What are the Pareto efficiency implications of such a policy?
  - b Formally, the shirking (Shapiro-Stiglitz) and radical (Bowles) efficiency wage models have a lot in common. What is the fundamental difference between both descriptions of the labour market?
  - c What are the similarities and differences between the sociological (Akerlof and Yellen) explanation for non-clearing labour markets and that offered by the radical school of thought?
  - d In the shirking model (Shapiro-Stiglitz), what is the effect on equilibrium employment of increased exogenous labour turnover and why?
  - e In the shirking model (Shapiro-Stiglitz), what is the effect on equilibrium employment of a positive productivity shock (say the production function is  $AF(L^*)$ , where  $L^*$  is the effective labour input, and  $A$  increases)?