

OLLSCOIL NA hÉIREANN
NATIONAL UNIVERSITY OF IRELAND, GALWAY

SUMMER EXAMINATIONS 1999

MONETARY ECONOMICS

EC500 Paper 3 and Specialised Course EC509 Paper 1

M.A. and M.Econ.Sc.

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Time allowed: **TWO** hours

Please answer question 1 in Part A and any **TWO** questions in Part B. All questions are equally weighted (25 points each).

PART A

1. (i) Explain the money view of the monetary policy transmission mechanism. What are the shortcomings of this transmission mechanism ? (5 pts.)
- (ii) Explain the balance sheet channel and bank lending channel of the credit view of the monetary policy transmission. Why is this transmission mechanism considered superior to the money view in explaining the apparent potency of monetary policy ? (10 pts.)
- (iii) Explain in detail the Bernanke and Blinder model of the bank lending view. Derive the Commodity-Credit locus and use the model to explain the difference between the money and credit views in terms of monetary policy effects on real output. (10 pts.)

PART B

2. Consider the following model:

$$m_t = p_t + a_0 + a_1 \log y_t - a_2 R_t + \varepsilon_t \quad (\text{money demand})$$

$$m_t = b_0 + b_1 h_t + b_2 R_t + \zeta_t \quad (\text{money supply})$$

where m_t , p_t , h_t are the logs of the nominal quantity of money, the price level and the monetary base respectively, R_t is the nominal interest rate and ε_t , ζ_t are money demand and money supply shocks, respectively, that have zero mean, constant variance and are uncorrelated with each other. Derive the mean squared error for m_t under a money supply and an interest rate target. Assuming the policymaker desires to minimize the mean squared error for m_t , which is the best target of monetary policy ? In your answer distinguish between the relative size of money demand and money supply uncertainty.

3.
 - (i) Explain verbally and graphically the equivalence of an interest rate policy and money supply policy in targeting full employment output in Poole's model under perfect certainty. (3 pts.)
 - (ii) Should the monetary authority choose an interest rate policy or a money supply policy to target full employment output in Poole's model in the presence of real uncertainty. Explain graphically and verbally. (7 pts.)
 - (iii) Suppose the monetary authority applies the optimal combination policy by following the policy rule $m = c_0 + c_1 r$. Derive the optimal value for the policy parameter c_1 . What factors does the value of c_1 depend on? Explain. (10 pts.)
 - (iv) Derive the optimal LM slope. Based on this expression, explain the optimal monetary policy in the presence of (a) real shocks only, (b) money demand shocks only, and (c) both real and money demand shocks. (5 pts.)

4.
 - (i) Explain why persistent or long-run inflation can be caused by rapid money supply growth but not by fiscal policy changes or supply-side shocks. (5 pts.)
 - (ii)
 - (a) Explain the concept of seignorage. (2 pts.)
 - (b) Explain the concept of the inflation-tax Laffer curve and derive an expression for the maximum level of seignorage. Interpret your answer. (7 pts.)
 - (c) Assuming that the interest semielasticity of money demand is $1/3$ and maximum seignorage is 10% of GDP, find the required rate of inflation. (3 pts.)
 - (iii) Explain how hyperinflation can arise from an ever-increasing money growth rate if the government tries to attain a seignorage target that is above the maximum level of seignorage implied by the inflation-tax Laffer curve. (8 pts.)

5.
 - (i) Discuss the benefits of the use of intermediate targets in the implementation of monetary policy. (4 pts.)
 - (ii) Explain why in the presence of unstable money velocity, a nominal income target is superior to a monetary aggregate target in controlling long-run inflation. (5 pts.)
 - (iii) Under what circumstances would an exchange rate target be an appropriate choice of an intermediate target? (3 pts.)

(iv) Derive the equilibrium rate of inflation in 2 cases:

(a) A credible precommitment of the monetary authority to a target rate of inflation π^* .

(b) A time-consistent equilibrium.

In which case does an inflation-bias problem arise ? (8 pts.)

(v) Explain the use of inflation targeting as a potential solution to the inflation-bias problem. How satisfactory is this solution ? (5 pts.)