

Carleton University
Department of Economics
Economics 4021 A
Mid-Term Examination, Fall 2011

Instructor: E. Choudhri

Duration: 8:35-9:55 am

Note: Answer only three questions.

1. (a) Use diagrammatic analysis of the traditional macroeconomic model of a closed economy (with IS-LM model representing aggregate demand) to examine how the interest rate, output and employment would respond to (i) a tax cut, and (ii) a decrease in money supply under:

Case 1. Sticky wages and flexible prices.

Case 2. Sticky prices and flexible wages (with a competitive labor market).

(b) How would your answer to part (a) change for Case 1 if instead of a closed economy, you assume an open economy with flexible exchange rates, perfect capital mobility and static expectations (represented by IS*-LM* model on the aggregate demand side).

2. Assume that households choose C_t , M_t and L_t to maximize

$$U = \sum_{t=0}^{\infty} \beta^t \left[\ln(C_t) + \ln\left(\frac{M_t}{P_t}\right) - \frac{L_t^\gamma}{\gamma} \right] \text{ subject to the constraint that}$$

$A_{t+1} = \bar{M}_t + (A_t + W_t L_t - P_t C_t - M_t)(1 + i_t)$, where \bar{M}_t is the initial money stock. Let $\bar{M}_t = M_t$ and use the first-order optimal conditions for this problem to derive: (a) an Euler condition relating C_t to C_{t+1} , (b) a money demand function relating M_t to C_t and i_t , and (c) a labor supply function relating L_t to C_t and W_t / P_t .

3. (a) Can small (menu) costs of changing prices explain price stickiness under imperfect competition? Discuss briefly.

(b) Can a policy maker without an informational advantage stabilize output under (a) Fischer model and (b) Taylor model? Explain briefly

4. (a) In the Lucas model output equals $y_t = (b/(1+b))(m_t - E_{t-1}m_t)$. Why does output in this model depend on $m_t - E_{t-1}m_t$, but not on $E_{t-1}m_t$? Explain briefly.

(b) Assume that $m_t = m_t^* + v_t$, where $v_t = \rho v_{t-1} + x_t$, $0 < \rho < 1$, and x_t is white noise. Suppose that the central bank determines m_t^* by the rule: $m_t^* = \mu v_{t-1}$. Would this rule influence the behavior of output (i.e., does y_t depend on μ)?