

# International Monetary Economics

## EC6012 Problem Set 1

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### 1 Instructions

This problem set is worth 10% of your final mark. All questions carry equal marks. The date for submission is Friday, March 6th, to the departmental office, KB 3-22a, by 4pm. Work in groups, but submit alone. Please place your name and student number on your submission. No extensions will be granted without medical certs.

### 2 ISLM

Assume the following economy model. Prices are fixed at 1.

$$C = 0.6(Y - T) \tag{1}$$

$$I = 800 - 20r \tag{2}$$

$$Y = C + I + G \tag{3}$$

$$M^s = 1,200 \tag{4}$$

$$T = 1,000 \tag{5}$$

$$G = 1,000 \tag{6}$$

$$\frac{M^s}{P} = \frac{M^d}{P} = 0.4Y - 40r \tag{7}$$

Use this model to answer these questions:

1. Write the numerical formula for the IS curve. Show  $Y$  as a function of  $r$ .
2. Write the numerical formula for the LM curve, showing  $Y$  as a function of  $r$  alone.
3. What are the short run equilibrium values of  $Y$ ,  $r$ ,  $Y - T$ ,  $C$ ,  $I$ ?
4. Now assume  $G$  increases by 400. How much will  $Y$  increase in short run equilibrium?
5. Assume  $G$  goes back to its original level of 1,000, but  $M^s$ , the nominal money supply increases by 600. How much will  $Y$  increase by?

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### 3 Multiplier-Accelerator Models

Include a non zero, non fixed term for the interest rate's effect on investment,  $I(r)$ , in the simple linear multiplier accelerator model shown in the lecture notes on pages 5-6. What changes are made to the model, and what relevance does an investment function dependent on the interest rate have for modern policy analysis? Think of one real world example where changing the value of  $r$  downward would either help or hinder investment in the business cycle.

### 4 Goodwin's Cycle Model

Graph the following dynamic system in  $U, V$  space. What does it tell you about the type of cycle we see?

$$du/dt = u(4 - 2v - u) \tag{8}$$

$$dv/dt = v(9 - 3v - 3u) \tag{9}$$

1. What are the equilibrium values of  $(u, v)$ ?
2. Graph the cycle.
3. Briefly, is this a realistic description of the business cycle? If so, why. If not, why not?

### 5 Practical Data Work

Using the trading floor or any other data gathering tool, graph the change in any *one* of Kaldor's stylised facts for the US or Irish economies from 1960 to 2008. Describe the changes you see in one page or less. Give the data source for your work.

### 6 Applied Policy Analysis

In one page or less, give your considered opinion on the Irish banks' bailout. Use any theoretical framework you choose. Include references if necessary. Extra marks will be awarded for clarity of description and originality of expression.