

14.02 Principles of Macroeconomics

Quiz #2, Questions

Name: _____

MIT ID: _____

Signature: _____

Date : _____

Read all questions carefully and completely before beginning the exam. There are two sections and ten pages – make sure you do them all. Show your work on all questions if you want to receive partial credit. If your answer involves a graph, please label all curves and axes clearly; if we can't read the graph you will lose points on your answer. The quiz has a total of 99 points and you get 1 point for nice handwriting.

No notes, calculators or books may be used during the quiz. You have 2 hours to complete the quiz.

There are no blue books, you must respond in the space allotted to each question.

Please mark one of the following options.

- 10AM Samer Haj-Yehia
- 11AM Samer Haj-Yehia
- 12AM Samer Haj-Yehia
- 1PM Samer Haj-Yehia
- 2PM Samer Haj-Yehia

- 9AM Indradeep Ghosh
- 11AM Oscar Landerretche
- 1PM Indradeep Ghosh
- 1PM Veronica Rappoport
- 2PM Veronica Rappoport
- 3PM Veronica Rappoport

3. If neither consumption nor investment are affected by the interest rate, monetary policy will be most effective in changing output in the short-run.

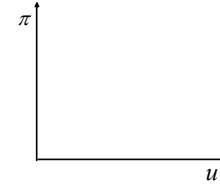
4. An oil shock will have no effect on budget deficits if the government does not start tampering with taxes and spending.

Part II. (9 points each, 45 point total)

Suppose an economy that can be describe by the following set of equations.

$$(1) \quad u_t - u_{t-1} = \beta(\bar{g}_y - g_{yt})$$

$$(2) \quad g_{yt} = g_{mt} - \pi_t$$



$$(3) \quad \pi_t - \pi_t^e = -\alpha(u_t - u_n)$$

1. Give the names of equations (1), (2) and (3). Explain the meaning of the equations. Point out the endogenous variables of this model and give their names. Point out the exogenous variables of the model and give their names. Explain how are these equations related to the IS-LM, the AS and the production function of the economy?

2. What is the “medium term” equilibrium? Show mathematically and represent it in the space suggested above. Show the effect of an increase in the “normal growth rate” on the medium term equilibrium. Give economic intuition. What does the “medium term” equilibrium teach us about the causes of inflation?

Suggestion: Use equation (1) and (2) to find an expression for current inflation as a function of unemployment and money growth. Plot this relationship in the space suggested above. Plot the medium term levels you derived in part 2 and equation (3) in the same figure.

3. Assume that an economy is at the medium term equilibrium at time $t=1$. Show the effects of a fall in money growth at period $t=2$, from g_{m1} to g_{m2} on the curves you have plotted. Show and explain the effects on the short term and medium term equilibrium, give economic intuition. Explain intuitively the difference in the evolution of real and nominal money growth in time.

Part III. (10 points each, 30 points total)

Consider an economy where “normal growth” is zero and the rate of growth of money is zero. Assume that half of the expenditures of the government are public investments (public works), and the other half is wages of civil servants. Private consumption depends on disposable income only. Private investment depends on the interest rate only. Public investment is a policy variable, hence exogenous. Total investment of the economy is then the sum of private and public investment.

1. Assuming an initial medium term equilibrium, what is the effect of a decrease in money supply on the interest rate, total investment, consumption, prices and total output. Explain intuitively and use the IS-LM and AS-AD graphs together.

2. Assuming an initial medium term equilibrium, what is the effect of an increase in government expenditures on the interest rate, total investment, consumption, prices and total output. Explain intuitively and use the IS-LM and AS-AD graphs together.

3. Will a permanent rise in oil prices increase prices for a while but not affect investment permanently? Explain your answer using the IS-LM and AS-AD graphs together.