

73-301/88-301
Macroeconomic Policy
Final Exam: Fall 2002

Please answer all questions. Legibly, eloquently, and correctly would be nice. You have a total of 3 hours.

PART A (45 MINUTES SUGGESTED). *Answer each of the questions in this part with TRUE, FALSE, or UNCERTAIN. Provide a brief explanation for your answer. (No partial credit will be given without a reasonable explanation).*

1. The government expenditure multiplier, dY/dG , is larger when taxes are collected as a lump sum than it is when taxes are proportional to income.
2. The central bank can increase the supply of money by selling bonds on the open market.
3. The LM curve is upward sloping because a higher level of money supply is needed to increase output.
4. If the government raises spending and taxes by the same amount, the IS curve does not shift.
5. The natural rate of unemployment is unaffected by policy changes.
6. Fiscal policy cannot affect investment in the long run because output always returns to its natural level.
7. In the long-run, after a deviation due to monetary policy changes, output and prices always return to their original level.

PART B (1 HOUR, 15 MINUTES SUGGESTED). *Answers to these questions should amount to a couple of paragraphs or so.*

8. Suppose the Argentinean economy consists of people who hold all their wealth in the form of money or bonds. Assume that the Argentinean central bank buys government bonds from the public. Which of the following statements are true and which are false?
 - a) The effect on the economy is greater when Argentines don't trust that their money is safe in the commercial banks.
 - b) The effect on the economy is greater when the Argentinean authorities require the banks to have a higher reserve ratio.
 - c) The effect on the economy is greater when Argentinean demand for money is insensitive to the rate of interest.

Provide an explanation for each answer.

9. In the first presidential debate of 1984, Walter Mondale made the statement that "everybody, every economist, every businessman" agrees that deficits affect interest rates. Is this true? Why or why not?
10. Would you characterize the basic direction of recent fiscal and monetary policy as expansionary or contractionary? Explain with some reference to what policy has been in recent years.
11. What is the relationship between the short-run Phillips curve and the Keynesian AS-AD model?
12. Given the following definitions: $G=90$, $C=10+0.9Y$, $I=100-900i$, $M^s=100$, $M^d=100-100i+Y$, $P=1$.
 - a) Derive an equation relating i and Y that describes the IS curve,
 - b) Derive the corresponding equation for the LM curve,
 - c) Calculate the equilibrium values of i and Y .

13. Taylor rules not only provide a way of evaluating what a central bank should be doing, it can also provide a measure of how far a central bank's policy is away from what it should be doing. Richard Clarida has defined the gap between observed policy and the policy indicated by an appropriate Taylor rule as a measure of a country's "financial stress." Explain precisely how financial stress is measured. With special reference to the 1993 currency crisis in Britain, explain how increases in financial stress may help predict impending currency crises.

14. Two students are having a conversation about Taylor rules. One says that an optimal Taylor rule is an instruction to raise interest rates by one percent for each one percent excess of output over the natural rate, and by 0.5 percent for each one percent that inflation is over its target level. The other says, *au contraire*, an optimal Taylor rule is an instruction to raise interest rates by one percent for each one percent excess of output over the natural rate, and by 1.5 percent for each one percent that inflation is over its target level. A third student overhears them and says "actually, not only are you both right, but you are both saying the same thing." How can that be true?

15. Lucas' argument that the central bank cannot use monetary policy to help smooth output fluctuations has earned his theory the moniker "Monetarism, Mark II." But this is unfair because Lucas' story is very different from Milton Friedman's. How so?

PART C. (15 MINUTES PLANNING PLUS 45 MINUTES WRITING SUGGESTED). *Answer the following substantial essay question. You should take time to carefully plan your answer, as much of the grade will depend on style.*

16. Assess the impact and contribution of rational expectations to macroeconomics during the period 1972 – 1985. What were its main contributions? How well have the main contributions stood up to the test of time? Can one make a useful distinction between methodological contributions and policy implications?

OUTLINE ANSWERS — You will need to provide more detail!

1. TRUE. When Y rises as a result of an increase in G , the tax take will rise when taxes are proportional to income. Thus, part of the stimulating effect of the increase in government expenditure is offset by an increase in taxes. (This was analyzed algebraically in Problem Set 3).
2. FALSE. It must buy bonds to put money in the hands of its citizens.
3. FALSE. Changes in M^s shift the LM curve. The LM curve slopes upwards because an increase in y has to be offset by an increase in i to keep money demand constant.
4. FALSE. The balanced budget multiplier is $+1$. An equal ~~is~~ increase in G and t shifts the ~~right~~ IS curve to the right.
5. FALSE. It is unaffected by the standard macroeconomic policies of fiscal + monetary policy. But many microeconomic policies may influence the rates of job

finding and job loss. One such example is policies that alter unemployment benefits, changing the rate at which people accept job offers.

6. FALSE; A permanent increase in G raises the real interest rate, thereby crowding out investment.
7. FALSE. Prices will be higher, according to the quantity theory of money.
8. a) FALSE. The size of the money multiplier is larger the greater the share of people's money that is kept in checking accounts rather than in cash.
b) FALSE. The basic money multiplier is inversely related to the required reserve ratio.
c) TRUE. In this case, the LM curve is quite steep.
9. well, those who believe in Ricardian equivalence would not agree.
10. Expansionary.

11. Take the AS ~~AS~~ curve:

$$y_t = \bar{y} + \beta (p_t - p_t^e)$$

Use Okun's law to get a relationship between unemployment and prices:

$$u_t = \bar{u} - \alpha (p_t - p_t^e)$$

Add + subtract last year's prices

$$\begin{aligned} u_t &= \bar{u} - \alpha (p_t - p_{t-1} - (p_t^e - p_{t-1}^e)) \\ &= \bar{u} - \alpha \left(\frac{p_t - p_{t-1}}{p_t} - \frac{p_t^e - p_{t-1}^e}{p_t} \right) p_t \\ &= \bar{u} - \alpha (\pi_t - \pi_t^e), \end{aligned}$$

and there's your Phillips curve.

12. Basic algebra

13. See transparencies -

14. This is the trick question based on the Fisher effect.

15. Monetarism says that all changes in $M^>$ affect output, but the Fed doesn't know what it's doing. Lucas said only the mistakes the Fed make affect output.