

Midterm 2 Exam

This exam is 70 minutes long, and is worth 70 points. Part I is multiple choice, Part II is a short answer. The points are allocated in proportion to the time you should spend on each problem.

PART I: Multiple Choice [26 minutes total, 2 points each]. Do NOT explain.

1. The expectations-augmented Phillips curve, where expected inflation equals lagged inflation, identifies several ways to reduce inflation. They include
 - a) reducing the sensitivity of prices to gaps between actual and potential GDP by rigidly controlling prices and wages.
 - b) eliminating a government spending surplus whenever actual GDP falls short of potential GDP.
 - c) running the economy far above its potential.
 - d) working to lower expected inflation by encouragement.
 - e) none of the above.

2. In the long run, decreases in the rate of money supply growth
 - a) decrease GDP by decreasing investment.
 - b) decrease inflation.
 - c) decrease GDP by increasing the real wage and thus labor supply.
 - d) decrease the real wage.
 - e) b and c.

3. At any given point on the aggregate demand curve, the slope decreases as (i.e., the AD curve becomes flatter as)
 - a) the responsiveness of the real wage level to unemployment decreases.
 - b) the interest sensitivity of investment decreases.
 - c) the interest sensitivity of money demand decreases.
 - d) the marginal propensity to consume decreases.
 - e) none of the above.

4. The long-run impact of a one-time permanent increase in defense spending includes
 - a) a decrease in actual GDP.
 - b) a decrease in potential GDP.
 - c) an increase in inflation.
 - d) no change in GDP.
 - e) b and c.

5. Which of the following circumstances is likely to exaggerate the expected shift in an IS curve in response to a reduction in taxes?
 - a) A perception that the tax change is permanent
 - b) A perception that the tax change is temporary
 - c) The certain knowledge that nothing is certain but death and taxes
 - d) A prior anticipation of higher taxes throughout the foreseeable future
 - e) None of the above

6. Given an expectations-augmented Phillips curve, such as

$$\pi_t = 0.7 \times \pi_{t-1} + 0.3 \times \pi_{t-2} + f\left(\frac{Y_{t-1} - Y^*}{Y^*}\right),$$

Then a policy designed to maintain actual GDP 5% below potential indefinitely

- a) would produce constant, negative inflation and unemployment above the natural rate.
- b) would produce accelerating *deflation* with unemployment above the natural rate.
- c) would produce accelerating inflation with unemployment below the natural rate.
- d) would produce decelerating disinflation with unemployment below the natural rate.
- e) none of the above.

7. As investment becomes more sensitive to the real rate of interest, the

- a) IS curve gets flatter and monetary policy grows more effective in manipulating GDP in the long run.
- b) IS curve gets flatter and monetary policy grows more effective in manipulating GDP in the short run.
- c) IS curve gets steeper and monetary policy grows more effective in manipulating GDP in the short run.
- d) IS curve is unaffected, but monetary policy grows weaker nonetheless.
- e) IS curve gets steeper and monetary policy grows less effective in manipulating GDP in the long run.

8. Which of the following is a financial liability of the private financial sector?

- a) Holdings of currency
- b) Deposits in demand and savings accounts
- c) Loans
- d) Holdings of government bonds
- e) All of the above

9. Which of the following is a liability for the Fed?

- a) Government bonds
- b) Loans
- c) Currency holdings
- d) Individuals' deposits in member banks
- e) Currency in circulation

10. Suppose the reserve requirement is 10 percent and banks routinely hold 1 percent in excess reserves. If the Fed purchases \$440 million in government bonds in an open market operation, then the money supply

- a) increases by \$4 billion regardless of the effect on the demand for currency.
- b) increases by \$5 billion regardless of the effect on the demand for currency.
- c) increases by some amount above or below \$4 billion, depending on whether the demand for currency rose or fell with the stimulus of the open market operation.
- d) increases by some amount less than \$4 billion because the full money multiplier is diminished by any GDP-induced increase in the demand for currency.
- e) none of the above.

11. The price adjustments of a dynamic model are founded on the intuition that
- upward pressure should be exerted on prices if actual GDP exceeds potential GDP.
 - downward pressure should be exerted on prices if actual GDP falls short of potential GDP.
 - downward pressure should be exerted on prices if unemployment in excess of the natural rate puts downward pressure on wages.
 - upward pressure should be exerted on prices if employment above potential employment portends upward pressure on wages.
 - all of the above.

12. Which of the following influences the opportunity cost of holding cash balances in a checking account?

- any service charges that might be applied in maintaining the account
- the difference between the real rate of interest and the rate paid on checking deposits
- the difference between the nominal rate of interest and the rate paid on checking deposits
- a and b
- a and c

13. Suppose someone anticipates a large increase in income sometime during the next year. The more likely it appears that that increase will be permanent,

- the larger is the increase in consumption even before the increment arrives.
- the larger is the increase in consumption when the increment arrives.
- the larger is the increase in income in every year after the increment arrives.
- all of the above.
- none of the above.

PART II: Short Answer [44 minutes total]

1.1. (6 points) Carefully indicating the curve shifts (using IS-LM/AD-AS diagram), show what happens in the *short run* when input prices rise by $Z_t > 0$ (in period 1). Which curve has shifted (indicate by how much)? You may assume the initial price level, P_0 , equals 1, the initial income level, $Y_0 = Y^*$, and price adjustment is described by:

$$\pi_t = \pi_t^e + f\left(\frac{Y_{t-1} - Y^*}{Y^*}\right) + Z_t$$

Where $\pi_t^e = 0$

1.2. (6 points) Using graphs and words, indicate what path the economy takes to long run equilibrium in the above model, assuming neither the government nor the central bank (Fed) takes any action. Briefly explain *why* the economy takes this path.

1.3 (8 minutes) Suppose input prices rise by $Z_t > 0$ (in period 1) as in Question 1.1, but now the Fed responds by increasing the money supply to try to keep output at potential. Briefly explain what path the economy takes in both the short run and long run. Be sure to use a graph in your answer.

1.4 (8 minutes) Repeat Problem 1.3, but assume $\pi_t^e = \pi_{t-1}$.

2. Consider the CC-LM model, wherein the CC schedule is given by equations (5) and (7), and the LM is given by equation (4):

$$Y = \bar{\alpha}(A_0 - dR - \gamma\rho) \quad (5)$$

$$\rho = \varphi_0 + \varphi_1 R + \varphi_2 Y - \varphi_3 [m(\text{Re } s)(1 - r)] + \varphi_4 Z \quad (7)$$

$$R = \frac{\mu}{h} - \frac{1}{h} \left(\frac{m(\text{Re } s)}{P} \right) + \frac{k}{h} Y \quad (4)$$

(NOTE: This is a different “Z” than in Question 1)

2.1 (6 minutes) Using the CC-LM diagram, show what happens if the riskiness of marginal investment projects, Z , were to increase? Be sure to clearly indicate the curve shifts.

2.2 (2 minutes) Explain what happens to the bank lending rate, and the quantity of loans made.

2.2. (8 minutes) What could the Federal Reserve do to counteract the impact on Y ? Show the impact of these actions using a CC-LM diagram, clearly indicating which curve or curves shift. Assume the reserve requirement is fixed.