

Recommended Exercises for Exam 2

Chapter 4:

- Questions for Review: 4, 7, 10
- Problems and Applications: 2, 4

Chapter 10:

- Questions for Review: 1, 2, 3, 4
- Problems and Applications: 1, 2, 4, 5

Chapter 11:

- Questions for Review: 1, 2, 3
- Problems and Applications: 1, 3 (a – f), 6

Auxiliary Exercises:

1. Describe the difference between “the real interest rate” and “the nominal interest rate.” How is the ex-post real interest rate calculated?

2. Consider the following model of a closed economy:

- $Y^d = C + I + G$;
- $C = 200 + 0.75(Y - T)$;
- $I = 500$;
- $G = 300$;
- $T = 200$

a. What is autonomous expenditure for this economy?

- b. According to the Keynesian Cross model, what is the equilibrium value of aggregate income (Y) for this economy?
- c. What is the equilibrium value of aggregate income if government purchases (G) are increased to 500?
- d. What is the equilibrium value of aggregate income if income taxes (T) are reduced to 100?
- e. What is the simple spending multiplier for this economy?

3. According to Keynes' theory of liquidity preference, an increase in the money supply will end up reducing interest rates. Explain why.

4. According to the Keynesian Cross model of income determination, what determines a nation's aggregate income? How does this compare to the classical model? What accounts for the difference?

5. Consider the following model of a closed economy:

- $Y^d = C + I + G$
- $C = 300 + .75(Y - T)$
- $I = 600 - 3000r$
- $G = 195; T = 400;$
- $M^s = 4800; P = 2;$
- $\pi^e = 0.035;$
- $(M/P)^d = 0.05 \left(\frac{Y}{r + \pi^e} \right)$

- a. Find the equation that describes the IS curve for this economy.
- b. Find the equation that describes the LM curve for this economy.
- c. What are the short run equilibrium values of real aggregate income (Y) and the real interest rate (r) for this economy?
- d. What happens to the equilibrium value of aggregate income when autonomous consumption rises from 300 to 400?
- e. How does your answer in part d compare to the impact predicted by the simple spending multiplier? Explain.

6. When the U.S. central bank wishes to increase or decrease the U.S. money supply, how do they accomplish that in practice? Explain.

7. Use the IS/LM model to predict how each of the following shocks would likely affect real aggregate income (Y) and the overall level of interest rates (r) in the short run, all else equal. *In each case, be sure to make a prediction for both variables, explain your predictions intuitively, and illustrate them with the relevant diagrams.*

- A downturn in the market for housing results in an exogenous decrease in investment expenditure.
- Rising gas prices lead to an increase in the expected inflation rate (π^e).
- The government cuts household income taxes (T).
- The central bank decreases the size of the money supply (M^S).

8. Consider the following model of a closed economy:

- $F(K,L) = 20K^{1/2}L^{1/2}$;
- $K^S = 100$; $L^S = 225$;
- $Y^d = C + I + G$;
- $C = 250 + .7(Y - T)$;
- $I = 1400 - 10,000r$;
- $G = 400$; $T = 500$;
- $M^S = 2000$;
- $(M/P)^d = 0.4Y - 5000r$

- Calculate the long run equilibrium values of Y , r , and P .
- How would a 200 unit increase in government purchases affect Y and r in the short run, all else equal? Explain.
- What would the new short run equilibrium values of Y and r be?
- How would P and r be affected by a 200 unit increase in government purchases in the long run? Explain.
- What would the new long run equilibrium values of P and r be?