CHAPTER 10: AGGREGATE DEMAND-I-BUILDING THE IS-LM MODEL

QUESTIONS FOR REVIEW

1. Use the Keynesian cross to explain why fiscal policy has a multiplied effect on national income.

2. Use the theory of liquidity preference to explain why an increase in the money supply lowers the interest rate. What does this explanation assume about the price level?

3. Why does the IS curve slope downward?

4. Why does the LM curve slope upward?

PROBLEMS AND APPLICATIONS

1. Use the Keynesian cross to predict the impact on equilibrium GDP of

   a. An increase in government purchases.

   b. An increase in taxes.

   c. Equal-sized increases in both government purchases and taxes.

2. In the Keynesian cross, assume that the consumption function is given by
   \[ C = 200 + 0.75(Y - T) \]
   Planned investment is 100; government purchases and taxes are both 100.

   a. Graph planned expenditure as a function of income.

   b. What is the equilibrium level of income?

   c. If government purchases increase to 125, what is the new equilibrium income?

   d. What level of government purchases is needed to achieve an income of 1,600?

3. Although our development of the Keynesian cross in this chapter assumes that taxes are a fixed amount, in many countries (including the United States) taxes depend on income. Let’s represent the tax system by writing tax revenue as
   \[ T = \bar{T} + tY, \]
   where \( \bar{T} \) and \( t \) are parameters of the tax code. The parameter \( t \) is the marginal tax rate: if income rises by $1, taxes rise by \( t \times 1 \).

   a. How does this tax system change the way consumption responds to changes in GDP?

   b. In the Keynesian cross, how does this tax system alter the government-purchases multiplier?

   c. In the IS–LM model, how does this tax system alter the slope of the IS curve?

4. Consider the impact of an increase in thriftiness in the Keynesian cross. Suppose the consumption function is
   \[ C = \bar{C} + c(Y - T), \]
   where \( c \) is the marginal propensity to consume.

   a. What does this mean?

   b. What are the value of \( \bar{C} \) and \( c \)?

   c. How does this affect the IS–LM model?
a. What happens to equilibrium income when the society becomes more thrifty, as represented by a decline in $C$?

b. What happens to equilibrium saving?

c. Why do you suppose this result is called the paradox of thrift?

d. Does this paradox arise in the classical model of Chapter 3? Why or why not?

5. Suppose that the money demand function is

$$(M/P)^d = 1,000 - 100r,$$

where $r$ is the interest rate in percent. The money supply $M$ is 1,000 and the price level $P$ is 2.

a. Graph the supply and demand for real money balances.

b. What is the equilibrium interest rate?

c. Assume that the price level is fixed. What happens to the equilibrium interest rate if the supply of money is raised from 1,000 to 1,200?

d. If the Fed wishes to raise the interest rate to 7 percent, what money supply should it set?