IFEEK特別演習IIB: 2018年度

Problem Set 3: The *IS*-*LM* Model

Q1. Assuming a closed economy, answer the following.

(a) What is the Keynesian cross? How is national income determined?

(b) Using the Keynesian cross, predict the impact of

[i] an increase in government purchases.

[ii] an increase in taxes.

[iii] an equal increase in government purchases and taxes.

[iv] an increase in the interest rate.

Develop an intuitive explanation for each case.

(c) What is the IS curve? Why does it slope downward?

(d) How does the IS curve shift following

[i] an increase in government purchases?

[ii] an increases in taxes?

[iii] an equal increase in government purchases and taxes?

Q2. In the Keynesian cross, assume that

$$\begin{aligned} C &= 200 + 0.75(Y - T) \\ I &= 100 \\ G &= 100 \\ T &= 100 \end{aligned}$$

(a) Draw a diagram showing planned expenditure as a function of income.

(b) If government purchases increase to 125, what is the new equilibrium income?

(c) What level of government purchases is needed to achieve an income level of 1,600?

Q3. This question concerns the impact of an increase in thriftiness in the Keynesian cross. Consider the consumption function is $C = \bar{C} + c(Y - T)$ where $\bar{C}$ is a prameter called autonomous consumption and c is the marginal propensity to consume. Assume investment I is constant.

(a) What happens to equilibrium income when the society becomes more thrifty, as represented by a decline in $\bar{C}$?

(b) What happens to equilibrium saving?

(c) Why do you suppose this result is called the *paradox of thrift*?

Q4. Answer the following.

(a) What is the theory of liquidity preference? How is the interest rate determined?

(b) Using the theory, predict the impact of

[i] an increase in money supply.

[ii] an increases in income.

[iii] an increases in the price level.

Develop an intuitive explanation for each case.

(c) What is the LM curve? Why does it slope upward?

(d) How does the LM curve shift following an increase in money supply?

Q5. Suppse that the money demand function is

$$\left(\frac{M}{P}\right)^d = 1,000 - 100r$$

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 happends to the equilibrium interest rate if the suppply of money is raised from 1,000 to 1,200?

(d) If the central bank wishes to raise the interest rate to 7 percent, what money supply should it set?

Q6. The IS-LM model is described by the following two conditions.

$$\begin{aligned} IS \text{ Curve}: &\qquad Y = C(Y-T) + I(r) + G, \\ LM \text{ Curve}: &\qquad \frac{M}{P} = L(r, Y). \end{aligned}$$

Identify endogenous and exogenous variables in the model. Explain your answer.