

income = saving + consumption

$$\Rightarrow MPS + MPC = 1$$

$$0.3 + MPC = 1$$

$$\therefore MPC = 0.7$$

$$C = C_0 + C_1 Y / S = Y - C$$

Exercise 3 Keynesian Cross and the Multiplier

MPC : proportion of income that we use to consume also called amount of consumption depending on income

1. The Keynesian consumption function assumes that $0 < MPC < 1$; what is the basis for such assumption? When income $\uparrow$, people will $\uparrow$ consumption (but not as much as income)

2. Assume a CLOSED economy with NO government. Let the autonomous consumption C_0 be 200 and MPS be 0.3. Draw and write equations for both saving and consumption functions. $C = 200 + 0.7Y$ $S = Y - (200 + 0.7Y) \rightarrow S = 0.3Y - 200$

3. Let the saving function be $S = -150 + 0.35Y$. Find and draw the consumption function. $C = Y - S$

4. How do the followings affect the AE graph (i.e. explain how the graph changes) and the equilibrium output? $C = Y - (-150 + 0.35Y) = 0.65Y + 150$

- All firm managers decide to buy fewer machines. $I \downarrow : AE \downarrow : Y^* \downarrow$

- The government decides to build more roads. $G \uparrow : AE \uparrow : Y^* \uparrow$

- The citizens decide to save more at all income levels. $S_0 \uparrow : AE \downarrow : Y^* \downarrow$

- The citizens decide to save larger proportion of income. $MPS \uparrow : MPC \downarrow : AE \downarrow$

- The government decides to raise tax. $T \uparrow : AE \downarrow : Y^* \downarrow$ (s_1)

5. In the Keynesian Cross Model, suppose that aggregate output is greater than aggregate $Y > AE$ expenditure. Explain the adjustment process towards the equilibrium. (supply > demand)

6. Let $C = 60 + 0.6Y$ and $I = 20$. Find the equilibrium output with the saving/investment approach. $S = Y - C = Y - 60 + 0.6Y = 0.4Y - 60$ | $S = I \rightarrow -60 + 0.4Y = 20 \therefore Y^* = 200$

7. Let $S = -60 + 0.4Y$ and $I = 20$. Find the equilibrium output with the standard approach.

Now, suppose I increases by 20. Find the new equilibrium and the investment multiplier. $I \uparrow$ by 20; $-60 + 0.4Y = 40 \rightarrow Y^* = 250$ $\frac{\Delta Y^*}{\Delta I} = \frac{50}{20} = 2.5$

8. With the multiplier effect, an injection of money (for example, investment) can lead to a greater proportional increase in output. Explain how this can happen.

9. How is the investment multiplier related to MPC? Explain the intuition behind such relationship. (Hint: Question 9) $MPC \uparrow : \text{investment multiplier} \uparrow$

$$\left(\frac{\Delta Y}{\Delta I} = \frac{1}{1 - \text{slope of AE}} = \frac{1}{1 - MPC} \right)$$

10. What is the Paradox of Thrift? Explain it with diagram.

The paradox of Thrift is an economic theory arguing that personal savings can be determined in overall economic growth. It is based on the circular flow in the economic activity in which current spending drives future spending.

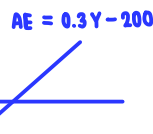
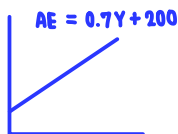
Suppose people save more $\rightarrow$ there will be leakages $\rightarrow$ people will spend less $\rightarrow$

less goods & products in economy $\rightarrow$ incomes in the economy fall $\rightarrow$ you can save less

5) When aggregate output higher than AE, it means that firm produce more than people needs, so firms have to cut their produce.

8) When money injected, firm have more money to operate their business. ($Y^* \uparrow$)

2)



3)

