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Keynesian Cross and the Multiplier

1. The Keynesian consumption function assumes that 0 < MPC < 1; what is the basis for such assumption?

- This indicates that when the income increases, the consumption expenditure will also increase, But the change in increased consumption expenditure will be less.

2. Assume a CLOSED economy with NO government. Let the autonomous consumption be 200 and MPS be 0.3. Draw and write equations for both saving and consumption functions. ↳ $\frac{\Delta S}{\Delta Y}$ MPC + MPS = 1 , MPC = 0.7 → $\frac{\Delta C}{\Delta Y}$

AE = C + I

$S = -a + (1-b)y$ (b: MPC; −a: a.s.; (1−b): MPS)

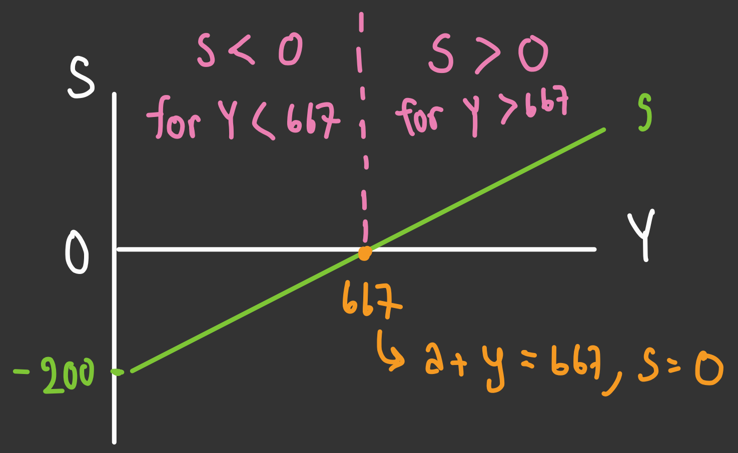
$S = -200 + 0.3y$

$200 = 0.3y$

$y \approx 667$

$Y = C + S$

$S = Y - C$



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

CONSUMPTION = 150 MPS = 0.35

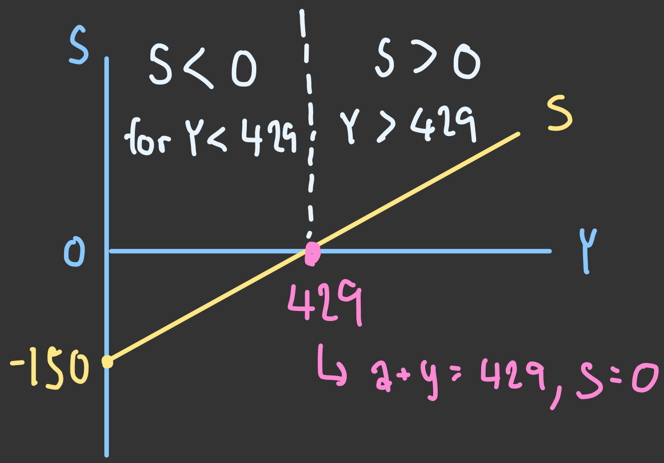
MPC = 0.65

$S = -a + (1-b)y$

$S = -150 + 0.35y$

$150 = 0.35y$

$Y \approx 429$



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

- All firm managers decide to buy fewer machines. demand ↓

I↓ → AE↓ → Y*↓

- The government decides to build more roads.

G↑ → AE↑ → Y*↑

- The citizens decide to save more at all income levels.

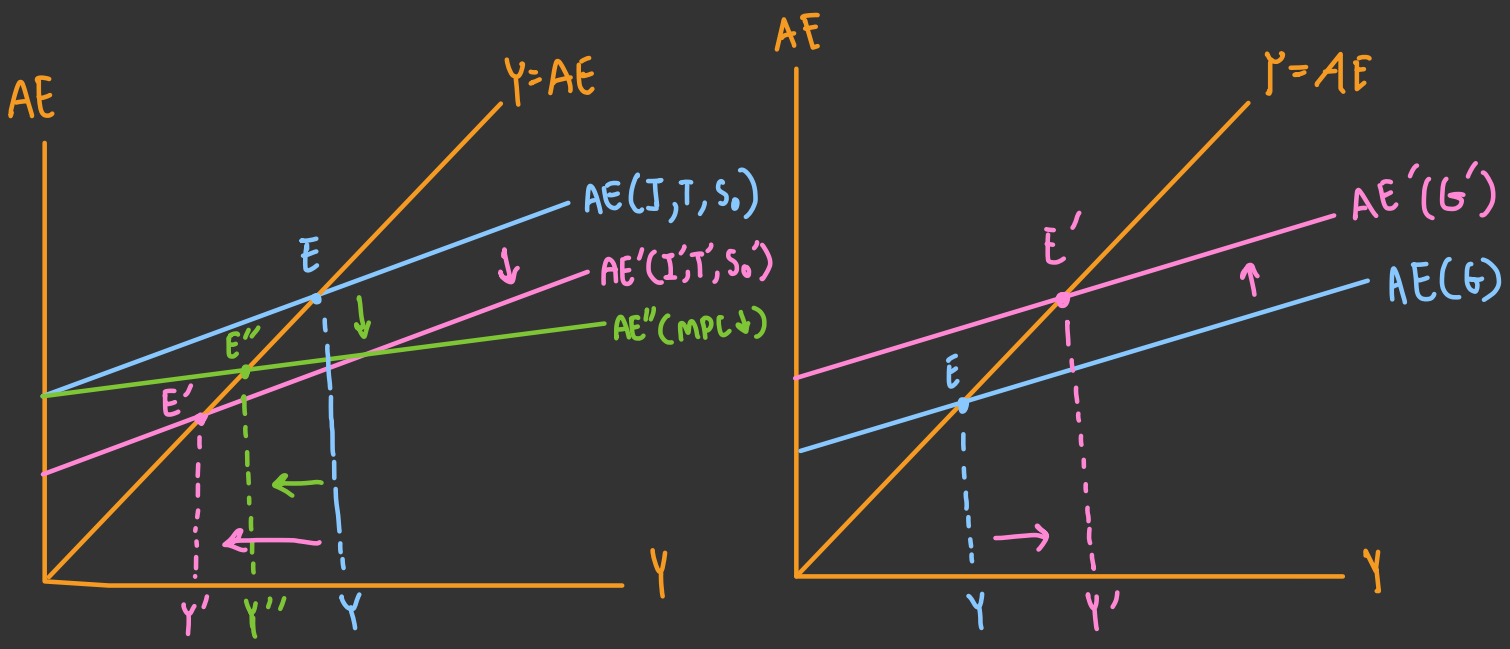
S↑ → AE↓ → Y*↓

- The citizens decide to save larger proportion of income.

MPS↑ → MPC↓ → AE↓ → Y*↓

- The government decides to raise tax.

T↑ → AE↓ → Y*↓



5. In the Keynesian Cross Model, suppose that aggregate output is greater than aggregate expenditure. Explain the adjustment process towards the equilibrium.

- That's means the real output is greater than the aggregate expenditure in economy.
- It would mean that goods are produced but pilling up unsold.

6. Let C = 60 + 0.6Y and I = 20. Find the equilibrium output with the saving/investment approach. S = I ; investment = Saving.

$C = 60 + 0.6Y$

$S = -60 + 0.4Y$

$I = 20$

$S = I$

$-60 + 0.4Y = 20$

$0.4Y = 80$

$\therefore Y = 200$

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. = $\Delta Y^* / \Delta AE$

$Y = C + I$

$S = -60 + 0.4Y$

$C = 60 + 0.6Y$

$I = 20$

$Y = 80 + 0.6Y$

$Y - 0.6Y = 80$

$0.4Y = 80$

$\therefore Y = 200$

$Y = C + I$

$C = 60 + 0.6Y$

$I = 40$

$Y = 60 + 0.6Y + 40$

$Y = 100 + 0.6Y$

$Y - 0.6Y = 100$

$0.4Y = 100$

$\therefore Y = 250$

$\Delta I = 20 \quad \Delta Y^* = 50$

$$\text{Investment multiplier} = \frac{\Delta Y^*}{\Delta I_0} = \frac{50}{20} = 2.5$$

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.

- In terms of GDP, the multiplier effect causes gain in total output to be greater than the chage in spending that caused it.

9. How is the investment multiplier related to MPC? Explain the intuition behind such relationship. (Hint: Question 9)

- Investment Multiplier shares a direct positive relationship with MPC. That is, higher the value of MPC, higher will be the value of investment multiplier.

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

- The Paradox of Thrift is an economic theory that argues that personal savings can be detrimental to overall economic growth.