Answer of exercise 3

1. The basis for keynesian consumption function, $0 < MPC < 1$, is that the increase in consumption is not as much as the increase in income. If income increases by 1 unit, consumption increases by less than 1 unit.

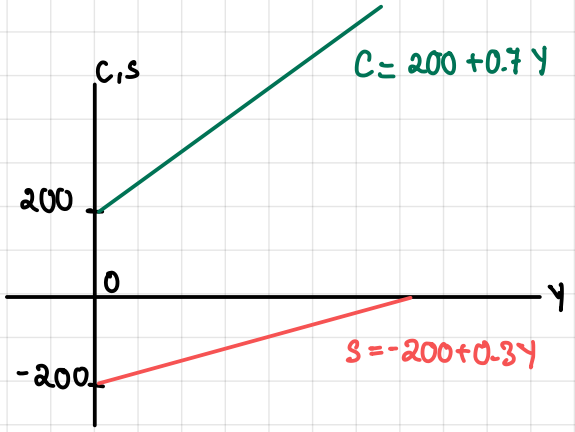
2. Write equations if $C = 200$, $MPS = 0.3$

$MPS + MPC = 1 \Rightarrow MPC = 1 - 0.3 = 0.7$

Consumption: $C = 200 + 0.7Y$

Saving: $S = Y - C \Rightarrow S = -200 - bY + Y = -200 + (1-b)Y$

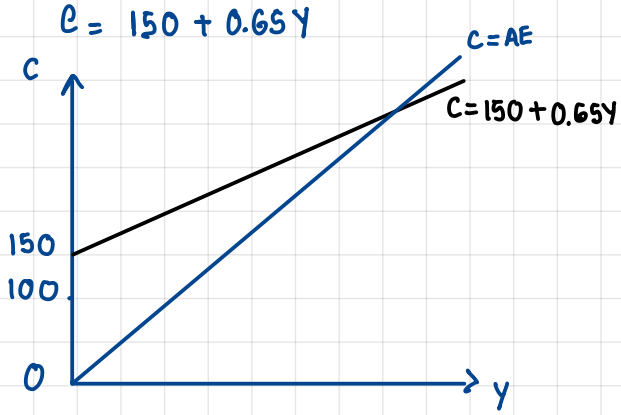
$S = -a + MPS\ Y \Rightarrow S = -200 + 0.3Y$



3. Find & Draw consumption function

$S = -150 + 0.35Y$

$C = 150 + 0.65Y$

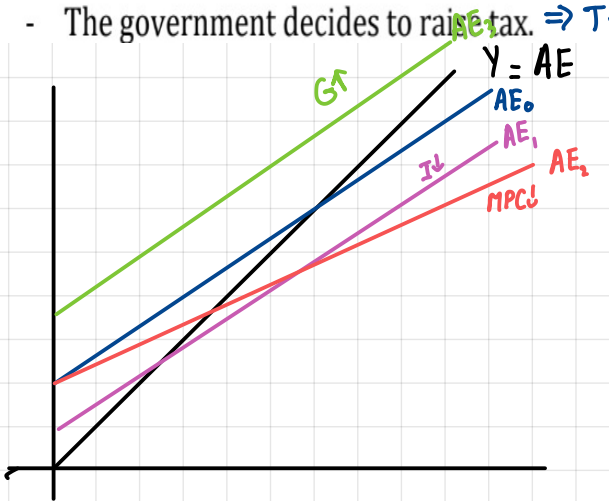


4. Explain how the followings affect AE graph

- All firm managers decide to buy fewer machines. $I\downarrow \rightarrow AE\downarrow \rightarrow Y^*\downarrow$
- The government decides to build more roads. $G\uparrow \rightarrow AE\uparrow \rightarrow Y^*\uparrow$
- The citizens decide to save more at all income levels. $S_0\uparrow \Rightarrow AE\downarrow \Rightarrow Y^*\downarrow$
- The citizens decide to save larger proportion of income. $MPS\uparrow \Rightarrow MPC\downarrow \rightarrow AE\downarrow \Rightarrow Y^*\downarrow$
- The government decides to raise tax. $\Rightarrow T\uparrow \rightarrow C\downarrow \rightarrow AE\downarrow$

Save more no matter what income is ⇒ not depend on income ⇒ S_0 is autonomous

Save more from income ⇒ consume less from income but C_0 is not affected b/c it's autonomous consumption.



5. When aggregate output is greater than aggregate expenditure, it has surplus. Hence, there are unsold inventories accumulate, and this signal business to cut down production to shift output back toward equilibrium.

6. Find equilibrium output with saving/investment approach.

$C = 60 + 0.6Y$; $I = 20$ $\therefore$ $S = -60 + 0.4Y$ $\quad Y = C + S$

Saving / investment approach : $S = I$ $\quad Y = 60 + 0.6Y + S$

$-60 + 0.4Y = 20$ $\quad \Rightarrow S = -60 + 0.4Y$

$0.4Y = 80$

$\therefore Y = \frac{80}{0.4} = \underline{200}$ #

7. Find equilibrium by standard approach

$S = -60 + 0.4Y$; $I = 20$ $\therefore$ $C = 60 + 0.6Y$

$AE = C + I = 60 + 0.6Y + 20 = 80 + 0.6Y$

$Y = AE \iff Y = 80 + 0.6Y$

$0.4Y = 80$ $\therefore$ $Y = \frac{80}{0.4} = \underline{200}$ #

I increase by 20 $\therefore$ $I = 20 + 20 = 40$

$AE = C + I = 60 + 0.6Y + 40 = 100 + 0.6Y$

$Y = AE \Rightarrow Y = 100 + 0.6Y$

$0.4Y = 100$ $\therefore$ $Y = \frac{100}{0.4} = \underline{250}$ #

Investment multiplier : $\frac{\Delta Y}{\Delta I} = \frac{250 - 200}{40 - 20} = \underline{2.5}$ # I increase by 1, Y increase by 2.5

8. With multiplier effect, an injection of money can lead to greater proportional increase in output. This can happen because when there's investment, there will be income of the other persons, and when there's income, there will be spending which leads to output. Thus, the initial investment can be many other people income which gradually will determine output. One man's spending is another man's income

9. Investment multiplier = $\frac{1}{1-MPC}$ (No government, No foreign factors)

When people spend alot of money due to high MPC, it will become the others' incomes. Then, the others will spend money too, and it will become many people's income. More income, more spending leads to investing for more output too. Therefore, when investment multiplier increases, output will increases alot too.

10. Paradox Thrift states that when people save more, they consume less which causes income decreases, and people will get to save less too.