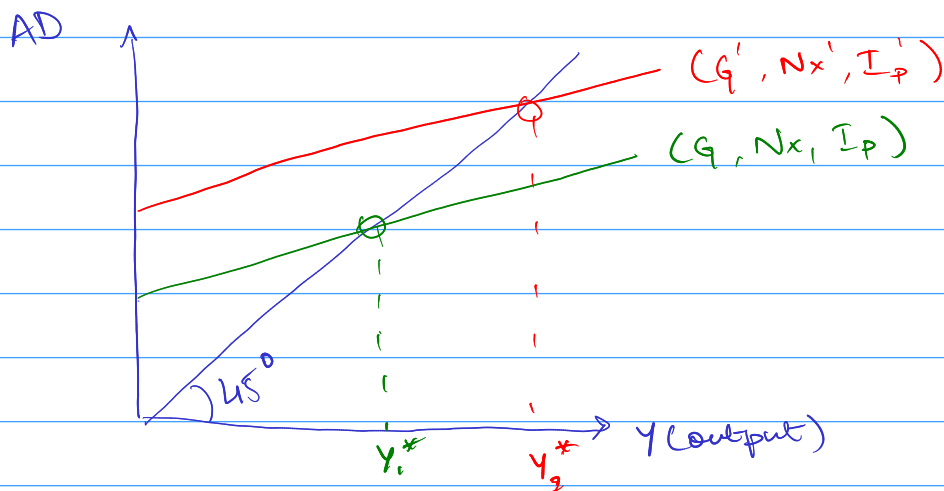Dhruna Sambrani
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Q1. Keynesian cross.

In the Keynesian Cross diagrams, the 45° blue line represents that the demand is perfectly met by supply.

The green and red line represent actual agregate expenditure for different exogenous factors such as expected investment and government spending. The point of intersection is called the equilibrium point. The consumption of a good is often affine function of the form $C = a_z + b Y_d$, where b is the MPC

a) If for a fixed income, government expenditure is higher, then the agregate demand is also higher. This shifts the line higher. Hence, the equilibrium point also shifts left.

$G' > G$
$Y^* > Y^*$
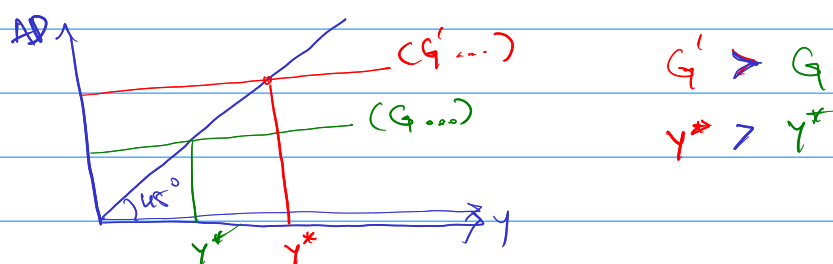
b) When tax collection increases, the disposable income $Y_d = Y - T$ decreases. From this, the C also decreases, pushing the Demand line down. Hence, Y^* well move leftwards.

$$T < T'$$
$$Y^{*'} < Y^*$$
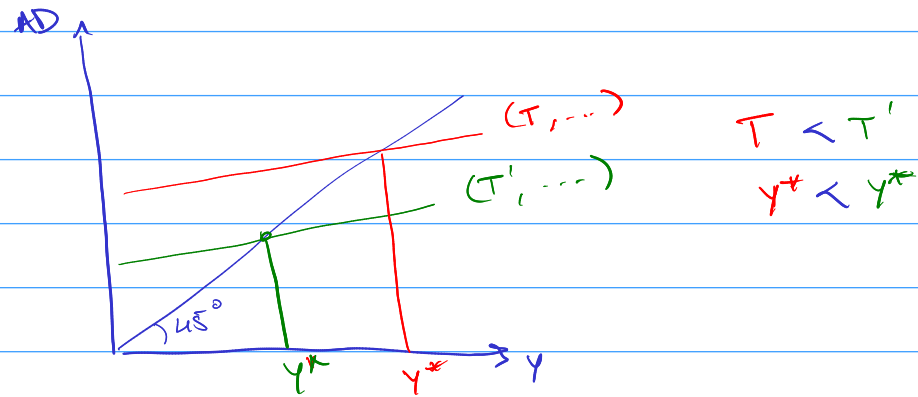
Q2.

a) We know Cost is affine in Y_d and $Y_d = Y - Tax$.

$\Rightarrow \quad C = a + MPC \cdot (Y - T)$

We are given $a = 200$, $Y = 7000$, $T = 2000$, $C = 3700$

$\Rightarrow \quad 3700 = 200 + MPC (7000 - 2000)$

$\Rightarrow \quad 3500 = MPC (5000) \Rightarrow MPC = \dfrac{3500}{5000} = 0.7$

Also assuming that

$\qquad MPC + MPS = 1$

$\Rightarrow MPS = 1 - 0.7 = 0.3$

b) At equilibrium, Interest = Saving, and NetSaving is $(Y_d - C) + (T - G - Nx)$, which is composed of private saving and government saving.

Hence, $(Y - T - C) + (T - G - Nx) = $ Saving.

$\Rightarrow \quad Y - C - G - Nx = I$

$\Rightarrow \quad 7000 - 3700 - 1500 - 100 = 1900 - 80r$

$\Rightarrow$ $\qquad$ $3300 - 1500 - 1900 + 100 = -80r$

$\Rightarrow$ $\qquad$ $1800 - 1900 - 100 = -80r$

$\Rightarrow$ $\qquad$ $200 = 80r$

$\Rightarrow$ $\qquad$ $r = \dfrac{200}{80} = \dfrac{10}{4} = 2.25\%$

Hence rate of interest is 2.25%.

c) If $Nx = 0$,

then private saving $= Y_D - C = Y - T - C$

$\Rightarrow S_{pr} = 7000 - 2000 - 3700 = 5000 - 3700 = 1300$

And public saving $= T - G =$

$\Rightarrow S_{pu} = 2000 - 1500 = 500$

Hence, total saving is $S_{pr} + S_{pu} = 1800$.

Q3- In money market, the velocity of money, or the rate at which money changes hands is denoted by V. The velocity is determined by the total amount of money transfered divided by total money in market. Hence, V is truely correlated to total transfer. and -vely corerelated to total money in market.

Now, total transaction = the number of transaction T and the price of transactions. P. Hence,

$$V = \dfrac{P \cdot T}{M}$$

When people want to hold money instead of spending, their MPS increases, and that leads to an equivalent

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decrease in MPC. Hence, the spend less, which leads to a decrease in transactions in economy. Hence, (PT) decreases, while net money in market remained same.

But, $V \propto PT$. Hence, V will also decrease with PT,

Hence, money velocity reduces with increase in holding.