

Q factor determine the magnitude of slope of IS schedule? i.e. what factors determine whether schedule is steep or flat?

→ Slope of IS shows the rate of change in income (ΔY) due to Δ in interest rate (Δi) i.e. $\Delta Y/\Delta i$. and it is determined by multiplier (k), MPC = c , MPS = $(1-c)$ and the interest sensitivity with respect to rate of interest (V)

$$Y = \frac{1}{1-c} [C_0 + I_0 - V_i] \quad \left(\frac{C_0 + I_0 + G_0 - Y_i - C_0}{1-c} \right)$$

$$\frac{\Delta Y}{\Delta i} = \frac{-V}{1-c} \quad \begin{matrix} \text{slope of investment function} \\ \text{while in 3 sector} = -V \end{matrix}$$

Thus slope of IS depend upon V -slope of I -curve,

② The value of multiplier, MPC and MPS.

Mathematical formulation of IS Eq. in a 2 sector eco.

$$Y = \frac{C_0 + I_0}{1-c} - \frac{1}{1-c} [V_i]$$

$$Y = kA - KV_i \quad \text{--- (1)} \quad \text{as } k = \frac{1}{1-c}$$

$$Y + \Delta Y = kA - KV(\Delta i + \Delta i) \quad \text{--- (2)}$$

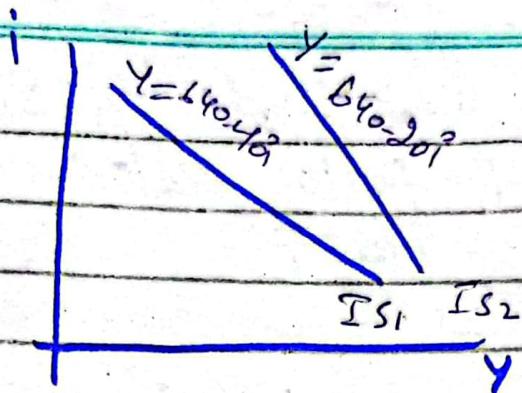
$$\frac{\Delta Y}{\Delta i} = \frac{-KV}{1-c}$$

$\Delta Y = -KV \Delta i \Rightarrow \frac{\Delta Y}{\Delta i} = -KV = \text{slope of IS wrt. } i$

$$\frac{\Delta i}{\Delta Y} = \frac{1}{KV} = \frac{1}{1-c}$$

① Role of i sensitivity of I in slope of IS:

$\frac{\Delta i}{\Delta Y} = \frac{1}{KV} \Rightarrow$ Slope of IS curve will be more when IS curve is steeper and vice versa.



$$Y = 10$$

$$C = 10 + 0.75Y, I = 150 - 10i$$

$$Y = 10 + 0.75 + 150 - 10i = 640 - 40i$$

when $i = 5$

$$Y = 640 - 20i - IS_2$$

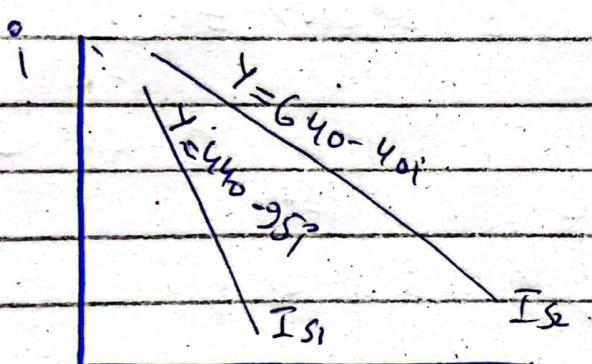
i	Y	i	Y
5	440	5	540
10	240	10	440

$$\text{for } IS_1 = \frac{1}{KV} = \frac{1}{4(40)} = \frac{1}{160}$$

$$\text{IS}_2 = \frac{1}{KV} = \frac{1}{4(20)} = \frac{1}{80}$$

$\left. \begin{matrix} \text{slope} \\ IS_1 > IS_2 \end{matrix} \right\}$

② Role of MPC and multiplier in the slope of IS Curve:



$$C = 10 + 0.75Y, I = 150 - 10i$$

$$Y = 640 - 40i - IS_1$$

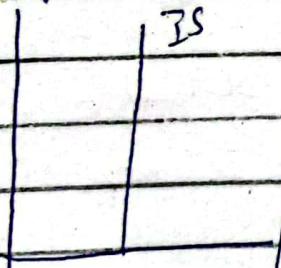
$$C = 10 + 0.6Y, I = 150 - 10i$$

$$Y = 640 - 25i$$

$$Slope_{IS_2} = \frac{1}{KV} = \frac{1}{4(10)} = \frac{1}{40}$$

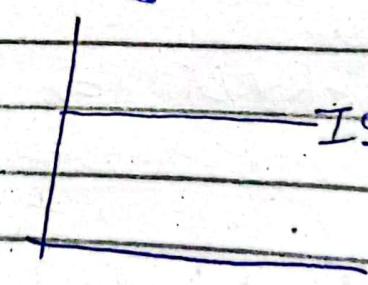
$$IS_1 \frac{1}{KV} = \frac{1}{25(40)} = \frac{1}{100} \text{ (steeper)}$$

③ Vertical IS



if i elasticity
of I is 0, the
IS will be
vertical

Horizontal IS



? elasticity
of expenditure
is infinite)

For LM

$$M_0 = KY - mi$$

$$Y = \frac{M_0 + mi}{K} \quad \text{--- (1)}$$

$$Y + DY = \frac{M_0 + Mi + Di}{K} \quad \text{--- (2)}$$

$$\textcircled{3} \quad \frac{DY}{D_i} = \frac{mDi}{K} \quad \Rightarrow \quad \frac{DY}{D_i} = \frac{m}{K} = \text{slope of LM}$$

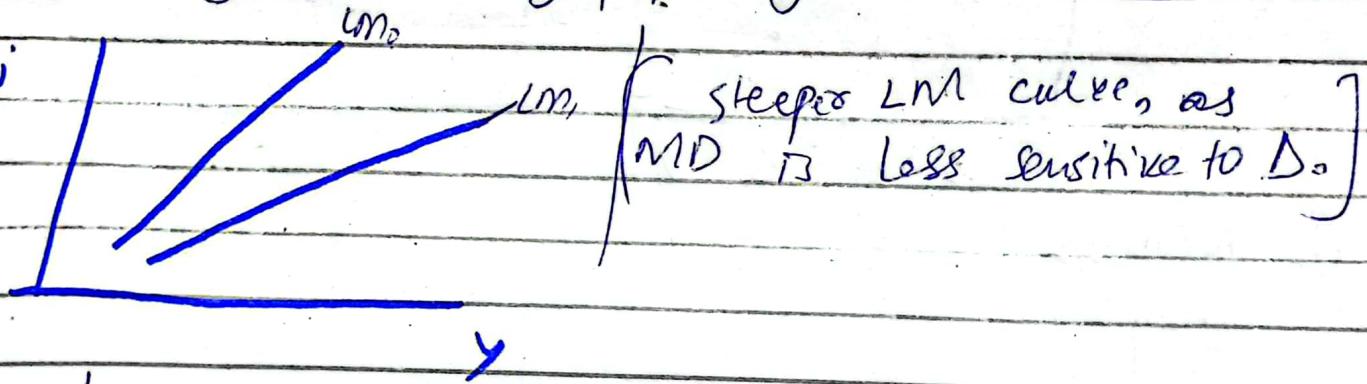
Slope of LM has 2 determinants
 ① K proportion of cash balance which is coefficient of transactive demand

② Slope of speculative demand for money wrt i

① Role of i sensitivity & SD in slope of LM.

Slope of LM curve = $\frac{Di}{DY} = \frac{K}{m}$ inversely affected by interest response

and directly influenced by proportion of cash balance (K):



③

LM if $m=0$, MD is not influenced by i , LM becomes vertical.
 Classical case

$LM \cdot m=0$ (complete influence)
 Liquidity trap (Kondratieff concept)

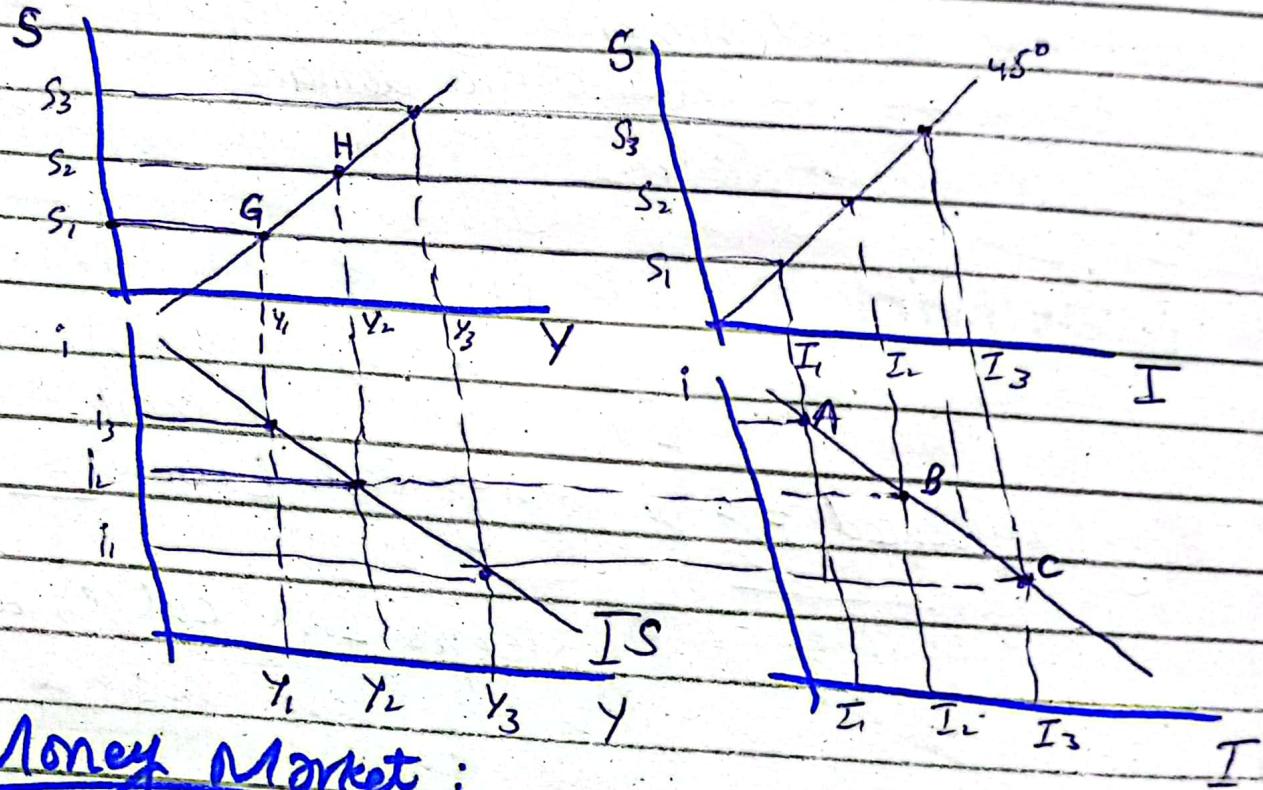
(Q)

Explain theories of interest rate determination in Good market and money market. what's diff b/w two?

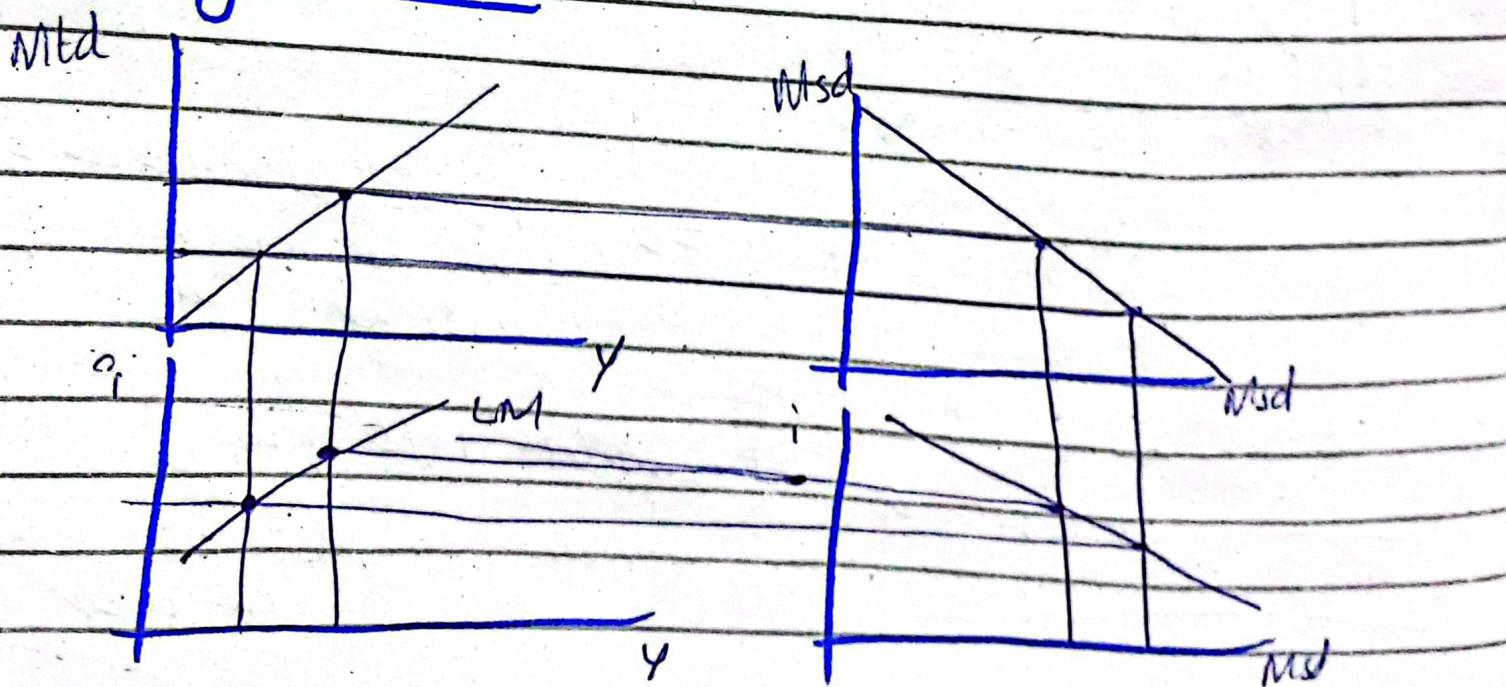
→ These are approaches used to explain how i is determined.

① Good Market theory:

here i is det by interaction of I & S . When [$I > S$] then i tends to ↑ and vice versa.



② Money Market:



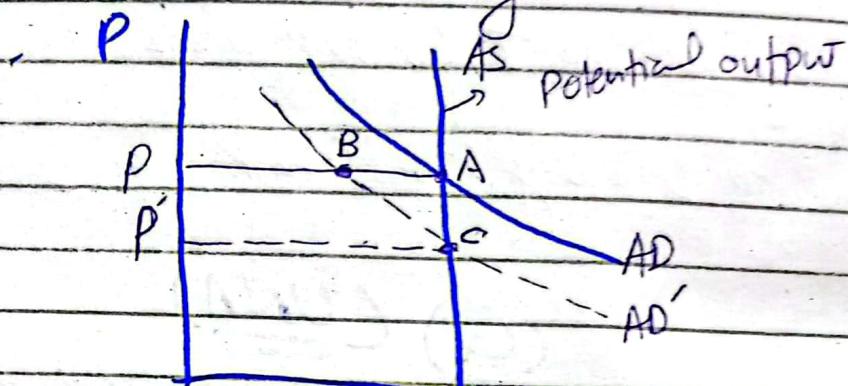
Yeah

Eco $\xrightarrow{\text{free}} \text{Inst} \rightarrow \text{growth}$

(Q1)

Difference b/w Classical and Keynesian
A+D framework;

-) Classical believe in Say's law of market (S C I O D).
- wage price flexibility ensure full employ q resources in classical macroeconomy



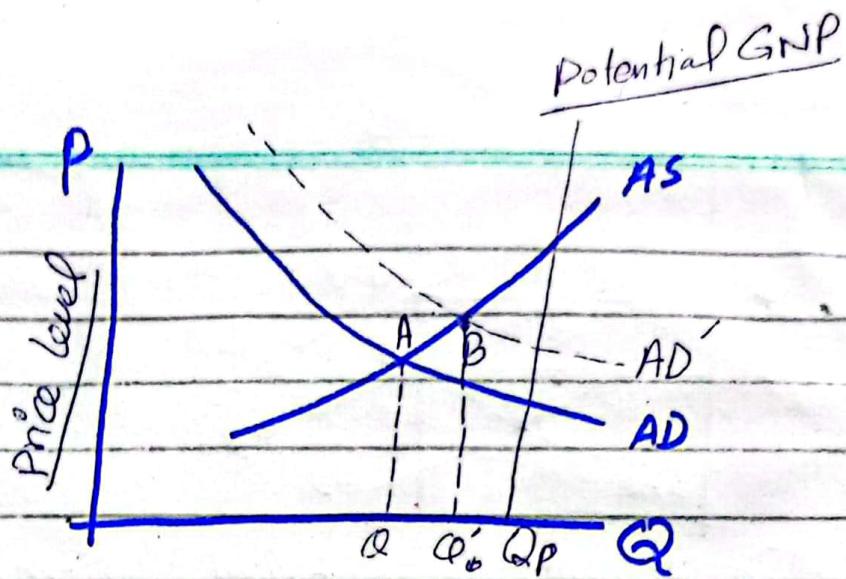
- fall in AD would lead to ↓ in Y and P .
- Due to tight Monetary or other external force $AD \rightarrow AD'$ reaches at B \Rightarrow same P while $Y \downarrow$
- Classicalist \Rightarrow does not persist \Rightarrow real natural output (\bar{Y})

Al Pigou:

- in PC \Rightarrow possibility of full employment
- Govt can't control level of employment and output
- Macroeconomic Policies can affect only general P level and composition of real GNP-

Keynesian View:

Here AS curve slopes upward because Keynes was concerned with short-run problems of Capitalism.



Real output

→ So long unemployed resources, $AD \rightarrow \uparrow$ in GNP with \vec{P}

+ assumes wage-price rigidity.

- Initial point at A → But if $AD \rightarrow AD' \rightarrow B \rightarrow \uparrow$ output
if $AD \downarrow \rightarrow$ employment ↓

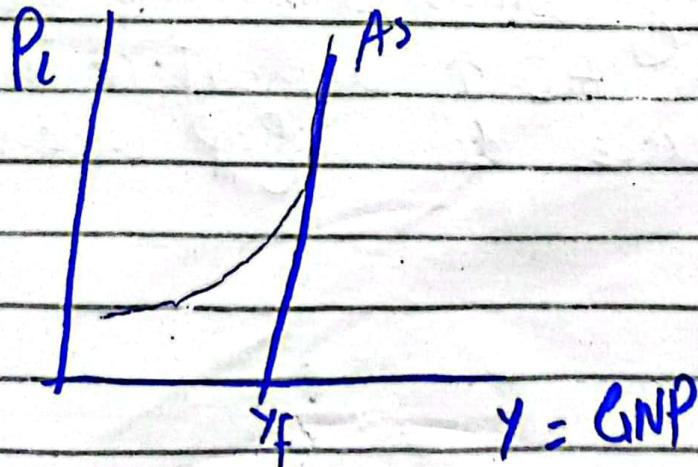
• Unemployment introduced by Keynes \Rightarrow output < potential

Kenysian Model with AD framework:

AD is the catalyst of Kenysian Model. D's expenditure makes things happen. Until full employment is reached, supply response to meet the demand. An \uparrow in AD \rightarrow Y↑

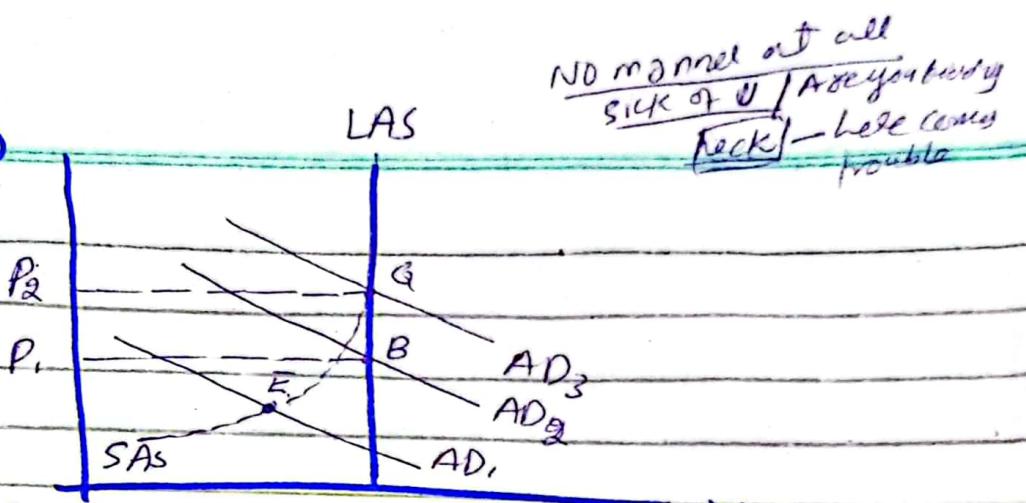
? After full employment \rightarrow P start ↑.

if we have AD large enough to achieve capacity output, but not so large to result in inflation of max potential Y, P could be achieved simultaneously.



when D is weak, firms
 $y: \text{if } D \uparrow \Rightarrow y \uparrow \Rightarrow \vec{P}$
means firms have
horizontal SC when
operating below normal
capacity.

Fig-14: P



- When below AD_2 , economy lies below full employment
- Keynes here disproves Say's Law -
- In Keynesian Range, \uparrow in demand creates its own supply -
- i.e. When $D \uparrow \Rightarrow$ idle resources are put into prod activities
- below emp \Rightarrow change in AD \Rightarrow little effect on P \Rightarrow higher on Y

True or false :

If expected inflation rises more rapidly than nominal interest rate, the "excess demand gap" will be widened.

- The "excess demand gap" refers to the situation where $AD > AS$. If expected π \uparrow faster than nominal i , the real i ($N.i - \pi$) \downarrow . lower i rate reduce cost of borrowing, which stimulates I and C , thereby \uparrow AD. If $AD \uparrow$ without corresponding \uparrow in AS, the excess demand gap widens.

(Q2)

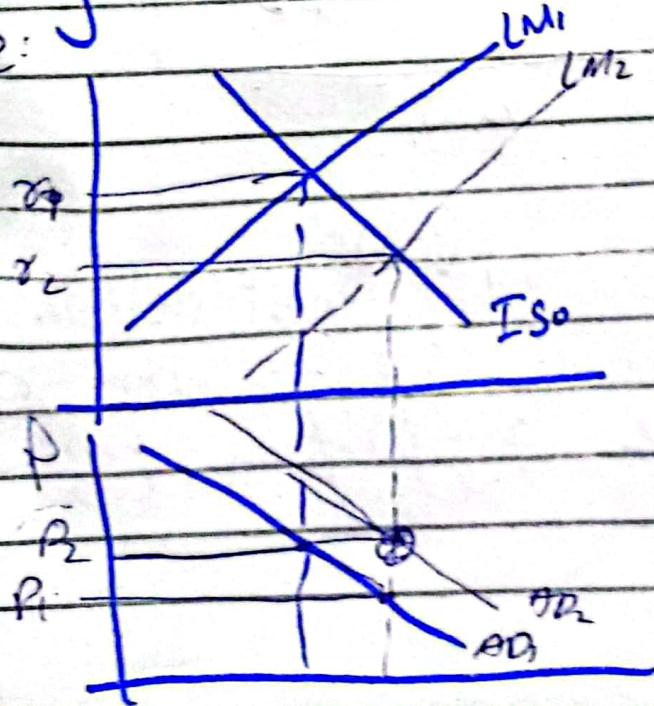
↑ i sensitivity of I , larger will be impact
of Δ in expected inflation on eq i rate.
True

when I is highly sensitive to i , a Δ in expected inflation has a significant impact on Eq i. Expected inflation affects nominal i rates through Fisher effect which states that nominal i rates = real i + Expected π . If investor expects $\uparrow \pi$ rate, they will demand \uparrow nominal i rates to maintain their real returns. In a scenario where I is highly responsive to i , even a small Δ in nominal i leads to large Δ in I , thereby significantly affecting AD and ultimately the eq i rates.

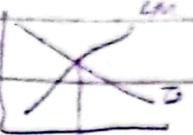
(Q)

i rates will \downarrow if we move right and downward along AD schedules

Moving True:

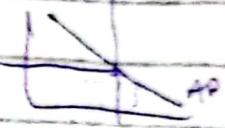


→ Moving AD to right implies that an ↑ in Q_{IS}
 to at lower price level → lower P leads
 to lower r (Shift LM to right) or increased I
 (moving IS) both of which result in ↓ interest rate

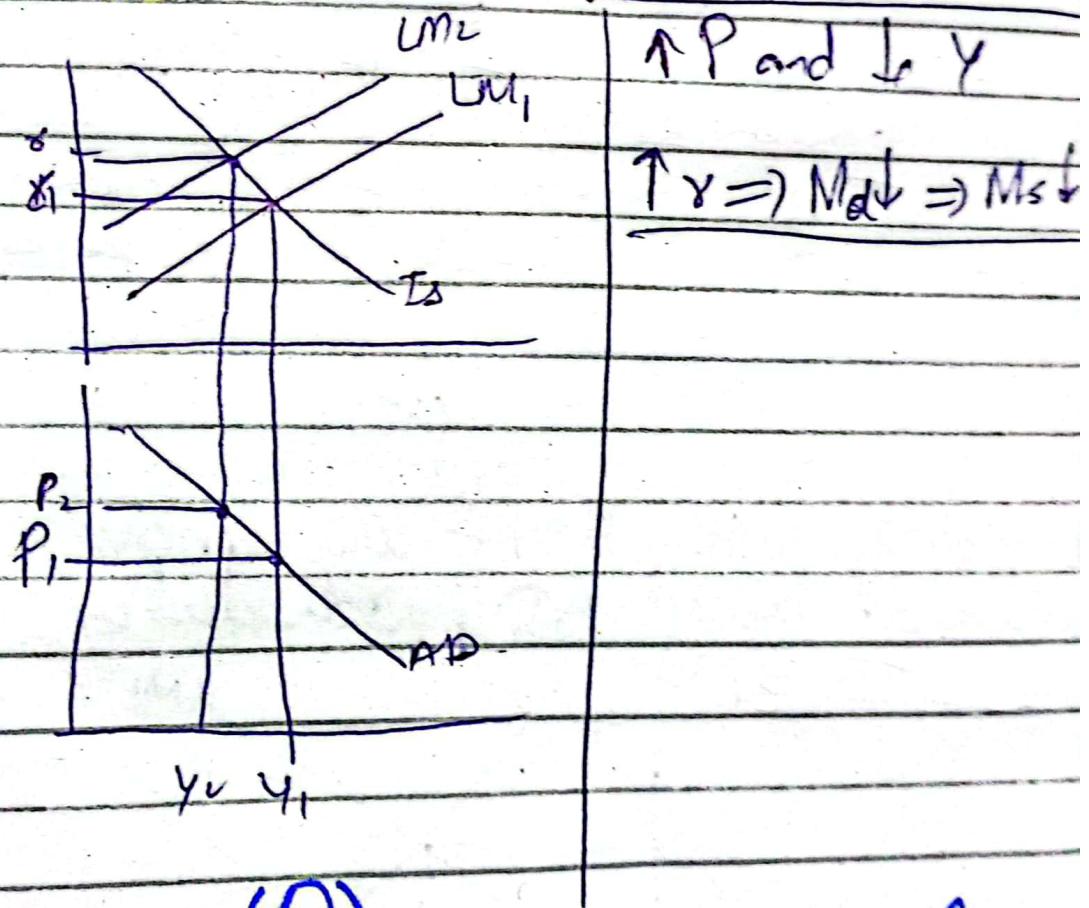


(Q4)

Nominal stock of money would shrink if we move left and upward along with AD schedule-



True :



(Q)

It is interesting that most western central bank reacted to accelerating inflation of early 70's by shifting away from pegged MTS policy

True

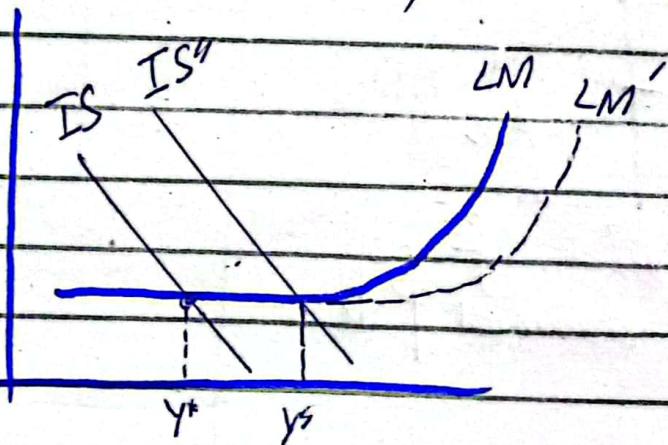
in early 70s, many CB moved away from policies that targeted a fixed growth rate of M_s (Pegged M_s policy) toward policies that focused on targeting interest rates and inflation. This shift was driven by recognition that rigidity controlling M_s was less effective in managing economic stability and inflation. Instead CB targeting i to effect economic activity and control inflation more flexibly, reflecting lessons learned from accelerating inflation during that period.

of Real Balance Effect

(RB)

Pigou's asset effect is solution to derive normal AD in liquidity trap situation;

Pigou effect proposed by Anti-Keynesian Arthur Pigou - explain relationship b/w consumption, employment and Eco output using deflation or inflation - During defl., P is low, which leads to greater real wealth - \uparrow wealth then stimulates demand leading to a rise in output and consequently employment. During inflation, $P \uparrow$, $W \downarrow$, $C \downarrow$ and Y and emp. \downarrow , $\Rightarrow AD \downarrow$. Any \uparrow or \downarrow in AD will be self correcting.



Liquidity trap in IS-LM Model is that phase where Economy is operating on horizontal LM curve. Here demand for I in bonds and people hold cash due to expectation of events such as war or deflation. Here monetary expansion fail to ↑ output - very low output and ↑ Unemployment. Pigo propose a mechanism to escape this trap. Price levels and employ falls and unemployment rises. As $P_L \downarrow$, real balance ↑ and by Pigo effect consumption in economy is stimulated. When IS intersect LM above horizontal LM trap at higher interest rate.

\rightarrow in $i > i^*$ \Rightarrow making it difficult for LM

Explain the Liquidity Trap