

①

Q1 Discuss why you agree or disagree :

- ① Booms can cause unit labor costs to rise slowly, while recessions usually cause unit labor costs to fall rapidly.
 (X) The speed of AAM in the case of an inflationary gap exceeds that of a recessionary gap because wages are flexible in the upward direction but sticky (rigid) in the downward direction.

- ② During an inflationary gap, actual income exceeds potential income, the unemployment rate is less than u^* , money wages rise more rapidly than productivity, and unit labor costs rise.

(✓) $y > y^*$, $u < u^*$ → excess demand for labor → cost ↑.

- ③ During a recessionary, actual income falls below potential income, the unemployment rate is greater than u^* , money wages rise less than productivity, and unit labor costs fall.

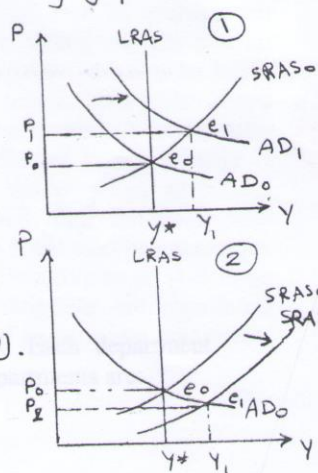
(✓) $y < y^*$, $u > u^*$ → excess supply for labor → cost ↓.

- ④ While positive demand shocks create an inflationary gap, positive supply shocks create a recessionary gap.

(X) Both positive demand and supply shocks create an inflationary gap.

- starting from e_0 in both graphs. Positive AD shock (rightward shift in AD_0 to AD_1) creates an inflationary gap $y^* < y_1$. (graph ①).
- Positive SRAS shock (rightward shift in $SRAS_0$ to $SRAS_1$) creates an inflationary gap $y^* < y_1$ (graph ②).

The AD shock at (y_1, P_1) higher price level than the SRAS shock at (y_1, P_2) lower ~ ~ .

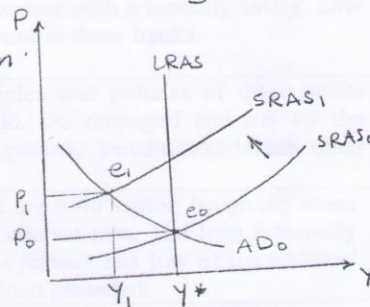


5) The cause of stagflation results from automatic adjustments to offset deflationary shock.

(X) The stagflation results from an adverse SRAS shock which causes SRAS₀ to shift leftward to SRAS₁.

Final result less level of income Y_1 (a recessionary gap) with higher price level P_1 .

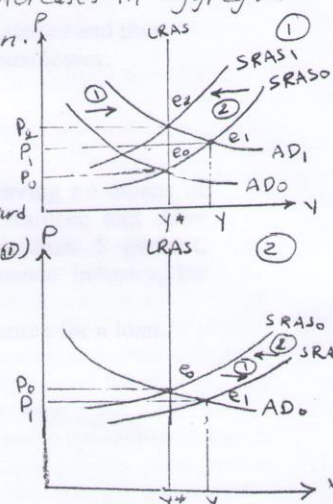
AAM can close that gap as the recessionary gap will rise the cost which will cause SRAS₁ to return back to SRAS₀ again.



6) Increases in aggregate demand or temporary increases in aggregate supply can increase real GDP in the long-run.

(X) The increase in AD₀ to AD₁ will cause an inflationary gap ($Y^* < Y$). In the short run there is an increase in Y but temporarily because the inflationary gap will cause SRAS₀ to shift leftward to SRAS₁, the gap will be closed at (P_2, Y^*) (graph 1).

Also an increase in SRAS₀ to SRAS₁ will open an inflationary gap which will cause SRAS₁ to return back to SRAS₀ at $E_0 (Y^*, P_0)$ in the long-run.

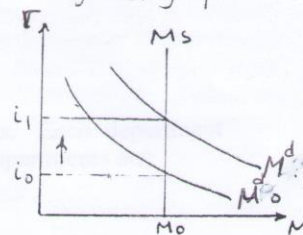


7) An increase in the general price level - other things being equal - may lead to an increase in the interest rate.

(✓) $\uparrow P \rightarrow MD \uparrow \rightarrow r \uparrow$

- An increase in (P) as M_s is constant will lead to an increase in the demand for money (M^d_0 shifts rightward to M^d_1).

- The equilibrium interest rate will increase (r_0) to (r_1) as M^d shifts rightward at the same M_s .



(3)

⑧ Transmission mechanism might occur in case of a fall in the price level.

(✓) $\downarrow P \rightarrow \downarrow MD \rightarrow \downarrow r \rightarrow I \uparrow \rightarrow AE \uparrow \rightarrow Y \uparrow$

① As a fall in (P) leads to a decrease in r . The MD (leftward shift in MD_0 to MD_1).

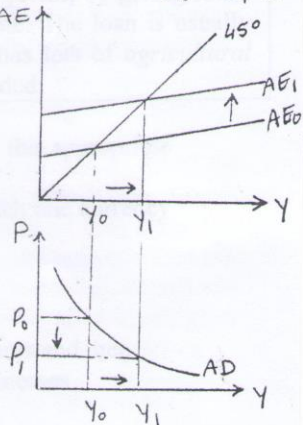
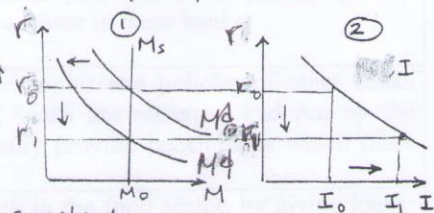
$P \downarrow \rightarrow MD \downarrow \rightarrow i \downarrow$ as M_s is constant.

② As equilibrium interest rate (i) decreases, (I) investment will increase ($I_0 \rightarrow I_1$).

$\downarrow r \rightarrow I \uparrow$

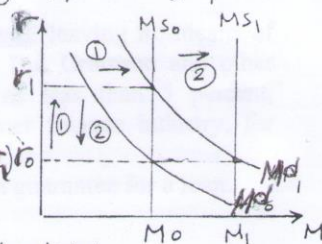
⑩ An increase in (I) leads to an upward shift in AE curve. As long as (P) falls we'll move along the same AD curve.

$\downarrow P_0 \rightarrow P_1, Y_0 \uparrow \rightarrow Y_1$



⑪ If the price level increases and money supply expands, equilibrium interest rate must increase.

(X) If the price level increases that will lead to an increase in the demand for money (MD_0 will shift rightward to MD_1), ($i_0 \rightarrow i_1$). But if it is accompanied by a monetary expansion (rightward shift in MS_0 to MS_1) it might cause the equilibrium interest rate to fall to i_0 or may be beyond (i_0).



⑫ The transmission mechanism connects monetary forces and real expenditure flows.

(✓) The Transmission mechanism take three steps:

- ① The link between monetary equilibrium and interest rate.
- ② The link between interest rate and autonomous investment.
- ③ The link between autonomous investment and AD.

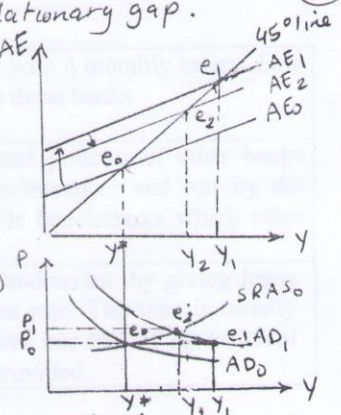
use the graph in P. 3 No. 8

- 13 An increase in investment will cause an inflationary gap.

(✓) IF $I \uparrow$ this will cause AE to shift $AE \uparrow$ upward Y will increase, and AD will shift rightward as P is constant.

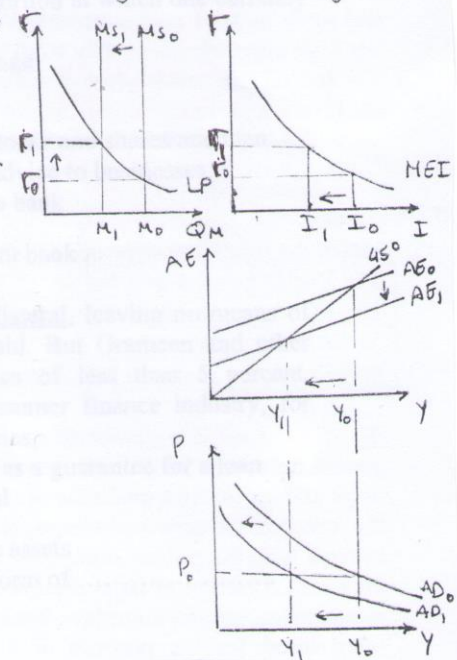
The shift in AD_0 to AD_1 will open an inflationary gap where $Y^* < Y_1$.

But the final equilibrium point is $e_2(Y_2, P_1)$ where introducing $SRAS_0$ leads to a rise in P_0 to P_1 .



- 14 The monetary adjustment mechanism will eliminate an inflationary gap by raising interest rates, reducing investment, and shifting the AD curve leftward.

(X) IF $M_s \downarrow \rightarrow R \uparrow \rightarrow I \downarrow \rightarrow AE \downarrow$
AD will shift leftward.
Final result Y will decrease but with a leftward shift in AD as P is constant.

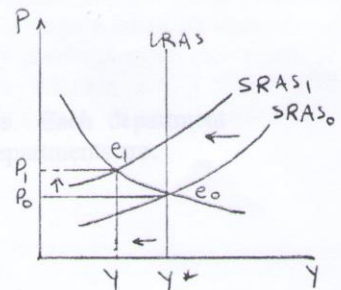


- 15 Inflationary supply shock initially raise income while lowering price level.

(X) An inflationary supply shock causes $SRAS_0$ to shift leftward to $SRAS_1$.

final result is a rise in the price level and a fall in national income Y .

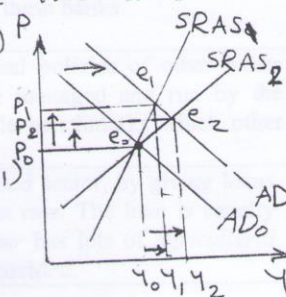
There will be a recessionary gap ($Y^* < Y$) at point $e_1(Y, P_1)$.



16) The greater the slope of SRAS curve the more effective the monetary policy - (X)

(e_1) → The monetary policy is less effective at a steeper SRAS curve ($SRAS_1$)

e_2 → The monetary policy is more effective at a flatter (less sloped) SRAS curve ($SRAS_2$).

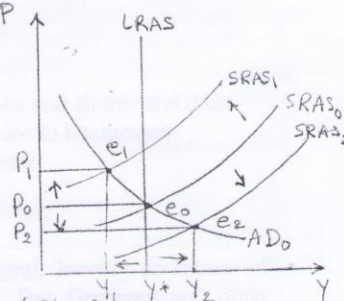


17) Aggregate Supply Shocks cause the price level and real GDP to move in opposite directions (✓)

- Starting from e_0 where there is no gaps.
- An adverse SRAS shock due to a rise in the cost of any imported raw material for example will shift $SRAS_0$ leftward to $SRAS_1$.

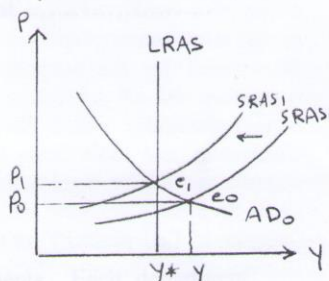
The new equilibrium point e_1 where Y^* falls to Y_1 and a rise in the price level from P_0 to P_1 (Stagflation).

- A positive SRAS shock will cause $SRAS_0$ to shift rightward where at e_2 an increase in Y to Y_2 and a fall in the price level to P_2 .



18) when wages are rising relative to productivity the SRAS will be shifting upward to the left.

(✓) Starting from an inflationary gap ($Y^* < Y$) there will be an excess demand for labor which cause wages to rise more than productivity. The unit labor cost will rise causing a leftward shift in $SRAS_0$ to $SRAS_1$. The gap is closed at (Y^*, P_1) .



Q #2 IF speculative demand (M_s) for money is given by the equation ($M_s = 300 - 15i$) and the quantity of money available for speculative purposes is ($M_s = 75$). IF the investment (I) function is given by the equation ($I = 75 - 3i$) and consumption (C) function is given by the equation ($C = 20 + 0.75Y$)

- determine initial equilibrium values in both money and product markets and show graphically.
- IF M_s available for speculation increases to 120 determine the new equilibrium values. Show graphically explaining how the Transmission mechanism works.

Solution

a) Equilibrium in money market where $M_s = M_D$

$$75 = 300 - 15i$$

$$i = \frac{225}{15} = 15$$

Equilibrium in product market where $Y = AE$

$$Y = AE = C + I$$

$$Y = (20 + 0.75Y) + 75 - (3 \times 15)$$

$$= 50 + 0.75Y$$

$$Y = 200$$

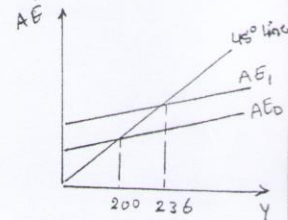
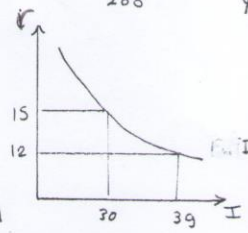
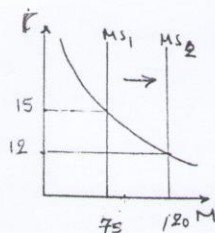
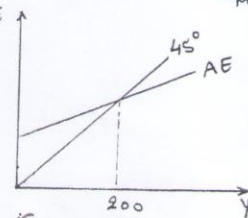
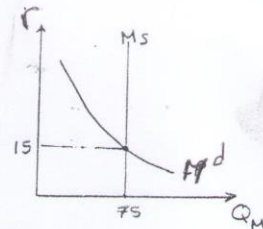
b) $M_s = M_D$

$$120 = 300 - 15i$$

$$\text{New } i = 12$$

$$\text{new } Y = (20 + 0.75Y) + 75 - (3 \times 12)$$

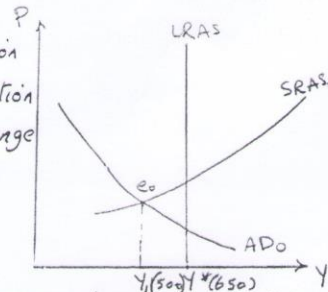
$$Y = 236$$



An increase in money supply by 45 causes a fall in i by 3%, and this causes an increase in investment I by 9 which leads to an increase in Y by 36.

Q#3 Study the following graph and answer the questions below:

- ①. The consumption function is given by the equation $C = 40 + 0.8Y$, where the investment function is $I = 150 - 4i$. what will be the change in the government expenditure to close the recessionary gap? Show graphically?

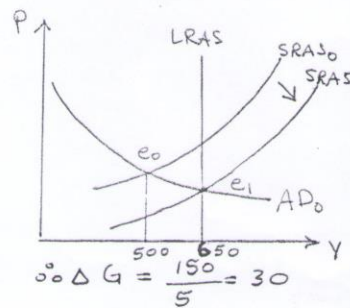


- ②. In the money market, the demand for money is given by the equation $M_D = 600 - 30i$, where the level of money supply is 150. what is the equilibrium interest rate?
- ③. Is there equilibrium in both product and money market?
- ④ Determine the level of investment where $Y^* = 650$.

Solution

$$① \quad K = \frac{1}{1 - MPC} = \frac{1}{1 - 0.8} = 5$$

$$K = \frac{\Delta Y}{\Delta G} \quad 5 = \frac{150}{\Delta G}$$



To close the recessionary gap using the fiscal policy government should increase its spending by 30 to restore $Y^* = 650$. (Shift in $SRAS_0$ to $SRAS_1$, rightward)

- ② In money market equilibrium where $M_s = M_D$
- $$150 = 600 - 30i$$
- equilibrium interest rate (i) = $\frac{450}{30} = 15$

(3) In product market equilibrium where:

$$AE = Y$$

$$C + I = Y$$

$$40 + 0.8Y + 150 - 4r = Y$$

$$40 + 0.8 \times 650 + 150 - 4r = 650$$

$$r = \frac{60}{4} = 15$$

in money market $r = 15$ also
There is equilibrium in both markets.

(4) The level of investment at potential income

$$I = 150 - 4 \times 15 = 90$$

Q # 4

A change in ^{net} exports of (50) led to a new equilibrium GDP level of (2400) IF $Y^* = 2000$, $P^* = 4$.

- (1) what type of gap has developed? And what is its size?
- (2) what is the value of the multiplier?
- (3) what is the equilibrium level of GDP in the long-run?
- (4) How would the price level be in the long-run?

Answer.

- (1) Inflationary gap where $Y(2400) > Y^*(2000)$
The size of the gap = $2400 - 2000 = 400$

- (2) $K = \frac{\Delta Y}{\Delta A} = \frac{400}{50} = 8$

- (3) In the long run Y must equal $Y^* = 2000$

- (4) The price level will be higher than 4 in the L-R.