AGGREGATE DEMAND AND RELATED CONCEPTS

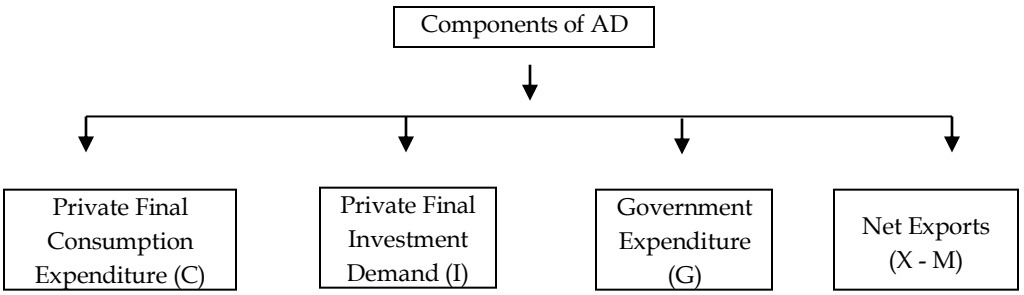
Aggregate Demand (AD)

Meaning

- Total demand for all final goods and services in an economy is called aggregate demand.
- In other words, aggregate demand refers to the total demand for all final goods and services in the economy during an accounting year.
- AD also means the aggregate or total expenditure on final goods and services in an economy.

Components of AD (Measurement of AD)

AD in an economy is measured in terms of total expenditure on goods and services that various sectors of the economy are willing to incur, during an accounting year. The main components of AD or aggregate expenditure are:



$$AD = C + I + G + (X - M)$$

1. Private Final Consumption Expenditure or Planned Private Consumption(C)

Demand for goods and services for private consumption or value of goods and services that households are able and willing to buy.

2. Private Investment Demand or Planned Private Investment (I)

It refers to intended (ex-ante) expenditure on creation of new capital assets like machineries, building, raw material etc. by private entrepreneurs.

3. Government Demand for Goods and Services or Government Expenditure (G)

It refers to the government intended expenditure on purchase of consumer and capital goods to fulfil or satisfy common needs of the society.

4. Net Exports (X-M)

Net exports refers to the difference between exports and imports of an economy. Net exports reflect the demand of foreign countries for our goods and services and our demand for foreign countries goods and services.

- AD is sum of the above mentioned four types of demand.

AD = C + I + G + (X — M) (In open economy)

- In two-sector model, AD is the sum total of consumption expenditure and investment expenditure only i.e.,

AD C + I (In closed economy)

Consumption Function

- **Consumption Expenditure**
- **Consumption Function**

- The functional relationship between consumption and income is called consumption function.

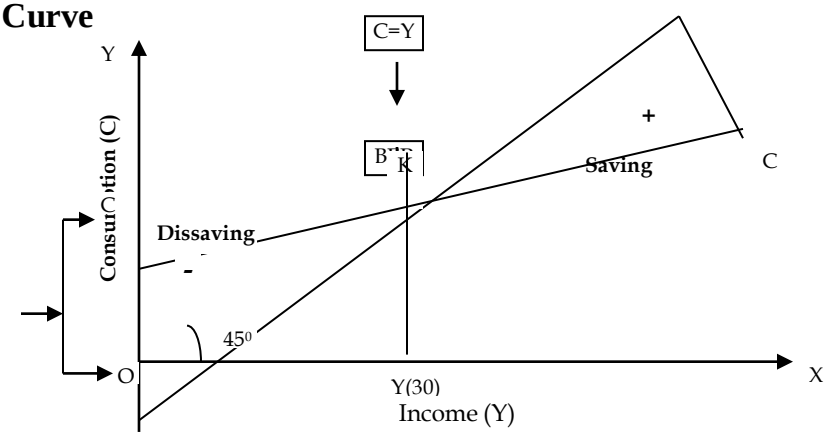
C = f (Y)

- C = Consumption
- Y = level of income

The portion of income which is spent on the purchase of goods and services at some given level of income, is called consumption expenditure. when income increases, consumption expenditure also increases but by a smaller amount." The law implies that there is a tendency on the part of the people to spend on consumption less than their full increment of income.

Income (Y)	CONSUMPTION (C)
0	40
100	120
200	200
300	280
400	360
500	440

❖ **Consumption Curve**



❖ **Important Observations**

- In the diagram 45° line is the income line or line of equality.
- CC' is a consumption curve, which starts from point C on the Y-axis. This implies that when national income is zero there is some minimum level of consumption i.e. autonomous consumption ($\bar{C}$) of OC
- CC' curve has a positive slope, which shows that as income rises, consumption will also rise but in less proportion. In other words, consumption will not increase at rate at which income increases.
- The point where consumption is equal to income (point K) is known as 'Break-Even-Point' (BEP) Before K point, consumption is greater than income indicating dissavings, but after point K consumption is less than income showing savings.

Saving Function

❖ **Saving**

The part of income (Y) which is not spent on consumption (C) is called saving (S). In other words saving is the excess of income over consumption.

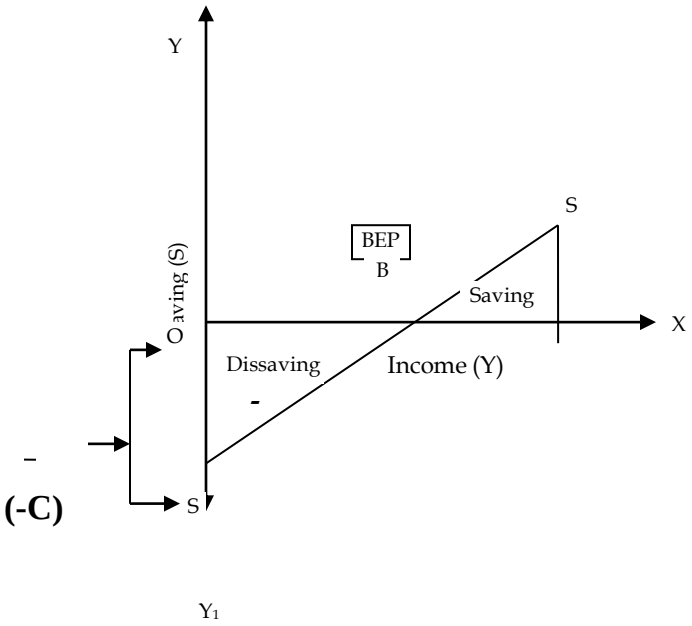
$$S=Y-C$$

Savings Function

The functional relationship between saving (S) and income (Y) is called saving function.

Income(Y)	Consumption(C)	Saving (S=Y-C)
0	40	-40
100	120	-20
200	200	0
300	280	20
400	360	40
500	440	60

❖ **Saving Function Curve**



❖ **Important Observations**

- SS' is a positively sloped saving curve, which shows the direct or positive relationship between saving and income.
- Saving curve SS' starts from point S at the Y-axis. This shows that zero level of income there is dissaving or negative saving which is equal to autonomous consumption, i.e., OS (—$\overline{C}$).
- The point where saving curve intersects or cuts X-axis (point B), known as Break-Even-Point (BEP). At this point savings are zero.
- After the BEP, savings are positive as income increases.

Propensity to Consume

(A) Meaning

- It refers to the schedule which shows the level of consumption at different levels of income in an economy.
- In other words, it is the desire to consume at different levels of income in the economy.

(B)Types of Propensity to Consume

Propensity to consume has two aspects:

(i) Average Propensity to Consume (APC)

Meaning:- It is the ratio between total consumption (C) and total income (Y) at a given level of income of the economy

APC = C/Y

❖ **APC Schedule (in Crores)**

Income (Y)	Consumption (C)	APC (C/Y)
0	15	—
10	20	2
20	25	1.25
30	30	1
40	35	0.875

❖ **Features of APC**

- As income increases APC falls because the proportion of income spent on consumption decreases.
- The value of APC can be greater than one (APC> 1), when consumption expenditure is more than national income. (Before BEP).
- APC can never be zero. Because consumption is never equal to zero at any level of income. Even at zero level of national income, there is autonomous consumption.

(ii) Marginal Propensity to Consume (MPC)

Meaning:- It refers to the ratio between change in consumption (ΔC) to the change in income (ΔY

$$MPC\ (b) = \frac{\Delta C}{\Delta Y}$$

❖ **MPC Schedule (in Rs. Crores)**

Income (Y)	Consumption (C)	ΔY	ΔC	MPC(ΔC/ΔY)
0	15	-	-	—
10	20	10	5	0.5
20	25	10	5	0.5
30	30	10	5	0.5
40	35	10	5	0.5

- If entire additional income(ΔY) is consumed (ΔC), MPC = 1 (ΔC=ΔY)
- If entire additional income(ΔY) is saved, then change in consumption is zero (ΔC = 0), in such a situation, MPC = 0.
- The MPC is low in the case of the rich people and high in the case of the poor.
- MPC of underdeveloped or developing countries is high than developed countries.

Propensity to Save

(A) Meaning

- It may be defined as a schedule showing amount that will be saved at different levels of income.
- In other words, it is a desire to save at different levels of income.

(B) Types of propensity to save

It has two aspects:

(i) Average Propensity to Save (APS)

Meaning:- Ratio of saving and income is called APS.

APS = S/Y

❖ **APS Schedule (in Rs. Crores)**

Income(Y)	Saving(S)	APS(S÷Y)
0	—15	—
10	—10	—1
20	—5	—0.25
30	0	0
40	+5	+0.125

❖ **Features of APS**

- As income increases, APS also rises.
- APS can be negative, when consumption expenditure is higher than income (before the BEP), in other words, when APC is greater than one (APC> 1).
- APS can be zero, when consumption expenditure is equal to income (at the BEP), in other words when APC is equal to one (APC = 1).
- APS can never be more than one because savings can never be equal to or more than income.

(ii) Marginal Propensity to Save (MPS)

- The ratio of change in saving (ΔS) to change in income (ΔY), is called MPS.

  Or

- MPS is the ratio of change in saving to change in income (ΔY)
- MPS is also known as slope of saving curve.

$$MPS = \frac{\Delta S}{\Delta Y}$$

- Value of MPS lies always between 0 and 1 (0 < MPS < 1)
- If entire additional income is saved, then MPS = 1

- If entire additional income is consumed, then MPS = 0

❖ **MPS Schedule (in Rs. Crores)**

Income (Y)	Saving(S)	ΔY	ΔS	MPS (ΔS/ΔY)
0	—15	-	-	-
10	—10	10	5	0.5
20	—5	10	5	0.5
30	0	10	5	0.5
40	+5	10	5	0.5

❖ **Features of MPS**

- The value of MPS always lies between 0 and 1(0 < MPS < 1).
- If entire additional income (AY) is saved, then MPS 1 (AS = AY).
- If entire additional income (AY) is consumed, then MPS 0 (AS = 0).
- The MPS is high in the case of the rich people and low in the case of the poor.
- MPS of underdeveloped or developing countries is low than developed countries.

Aggregate Supply (AS)

❖ **Meaning**

- Aggregate supply is the money value of the total output available for purchase in an economy during a given period.
- In physical terms, AS refers to the total output of goods and services in an economy during a given period.

❖ **Aggregate Supply (AS) = Total Output = National Income**

Aggregate supply (AS) is the aggregate cost of total output produced in an economy. Value of total production is distributed among factor inputs in the form of factor income, i. e., wages, interest, rent and profit. The sum total of factor incomes at national level is called national income. So AS and national income are one and the same.

❖ **Components of AS (Measurement of AS)**

- National income or aggregate supply is the sum total of consumption expenditure (C) and savings (S) in the economy in an accounting year.
  AS=C+S Or AS=Y=C+S
- A major portion of income is spent on consumption and the balance is saved.

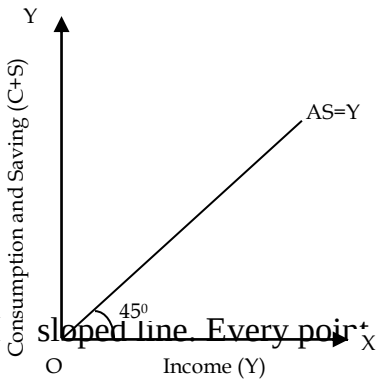
❖ **AS schedule (in Crores)**

It is a table showing combined behaviour of consumption and saving corresponding to different levels of employment (income).

Level of	Consumption (C)	Savings (S)	AS (C+S)

employment			
0	10	-10	0
10	15	-5	10
20	20	0	20
30	25	5	30
40	30	10	40
50	35	15	50
60	40	20	60

❖ **AS Curve**



- The AS curve is 450 positive sloped line. Every point on the AS curve is equidistant from the and Y-axis.
- AS curve or income line implies that total national income is equal to total expenditure or spending i.e., Consumption (C) + Saving(S).

Investment Function

Investment means expenditure made on creation of new capital assets. Alternatively, investment is the addition to the existing stock of physical (real) assets like machinery, building, equipment, raw material, etc., which leads to increase in production capacity of an economy.

❖ **Types of Investment**

Investment can be induced as well as autonomous:

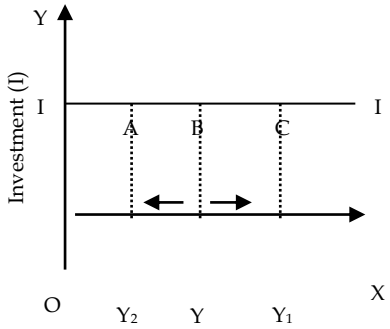
(i) **Induced Investment**

- Induced investment refers to the investment which is made with the motive of earning profit as is done by the private sector.

(ii) Autonomous Investment

- It refers to the investment which is independent of the level of income as is generally done in govt. sector.

- Autonomous investment curve is a straight line parallel to x-axis. Government investment in public utilities like construction of railways, roads, posts, electricity, etc., is normally autonomous investment.



Planned (Ex-ante) Saving and Planned (Ex-ante) Investment

(A) Ex-ante Saving

- What the savers in an economy plan or intend to save at different levels of income, during a given period is called ex-ante or expected or intended or planned or desired saving.

(B) Ex-ante Investment

- What the investors in an economy intend or plan to invest at different levels of income, is called ex-ante or expected or intended or planned or desired investment.

Ex-post Saving and Ex-Post Investment

(A) Ex-post Saving

- Whatever is left out after deducting consumption expenditure from the income of an economy is called ex-post or actual or realized saving.
- In other words, the actual or realized saving in an economy during a year.

(B) Ex-post Investment

- The actual addition in the capital stock of an economy is termed as ex-post or actual or realized investment during a year

Relationship Between APC and APS

The sum of APC and APS is equal to one. It can be proved as under.

We know: Y = C + S

Dividing both sides by Y, we get

$\frac{Y}{Y} = \frac{C}{Y} + \frac{S}{Y}$

1= APC + APS $\qquad \therefore \frac{Y}{Y} = 1;\ \frac{C}{Y} = APS;\ \frac{S}{Y} = APS$

Relationship Between MPC and MPS

The sum of MPC and MPS is equal to one. It can be proved as under.

We know: $\Delta Y = \Delta C + \Delta S$

Dividing both sides by ΔY, we get

$\frac{\Delta Y}{\Delta Y} = \frac{\Delta C}{\Delta Y} + \frac{\Delta S}{\Delta Y}$

$1 = MPC + MPS$ $\quad \therefore \frac{\Delta Y}{\Delta Y} = 1;\ \frac{\Delta C}{\Delta Y} = MPC;\ \frac{\Delta S}{\Delta Y} =$ MPS

INCOME DETERMNIATION AND MULTIPLIER

Determination of equilibrium

- Equilibrium level of income and employment (output) is determined where aggregate demand (AD) is equal to aggregate supply (AS) and level of planned saving equals planned investment.

  AD = AS

  Or

  C +S = C + I

  I = S

- There are two ways or approaches of determining the equilibrium level of income, output and employment, in the economy.
  (i) Aggregate Demand (AD) Aggregate Supply (AS) approach.
  (ii) Saving (S) — Investment (I) approach.

Aggregate Demand (AD) and Aggregate Supply (AS) Approach of Determination of Equilibrium

Or

AD (C + I) and AS (C + S) Approach

❖ **AS curve**

Aggregate supply (AS) represents national income. It is expressed as 450 line from the origin. AS is the sum total of consumption (C) and saving (S). Therefore, AS is represented by C + S.

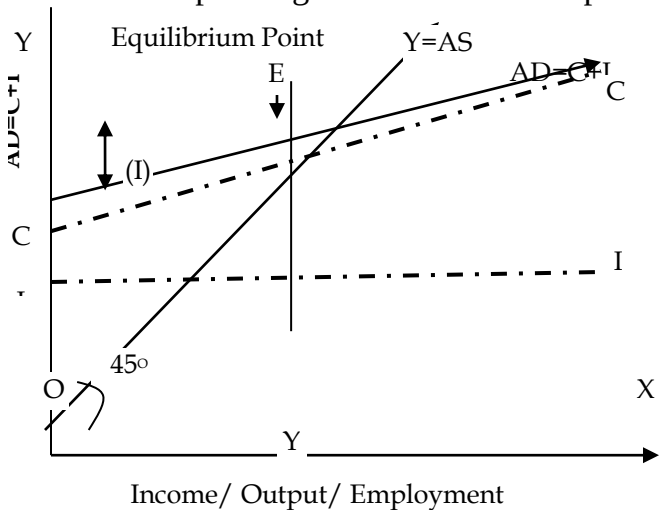
❖ **AD curve**

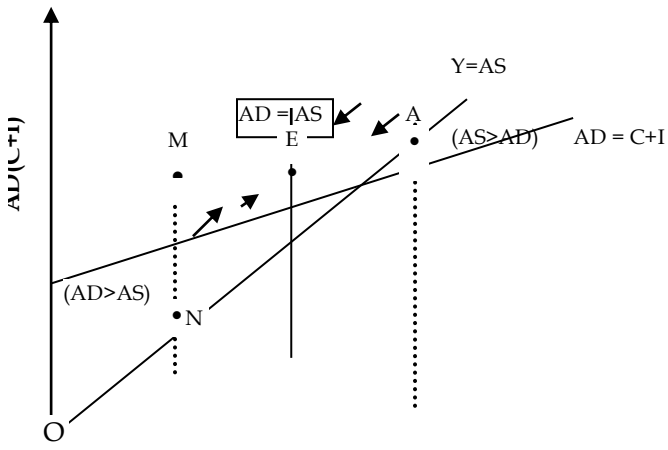
The Aggregate demand (AD) curve is the vertical summation of consumption (C) and investment demand (I) schedules at each level of income. Therefore, AD curve is represented by C + I curve.

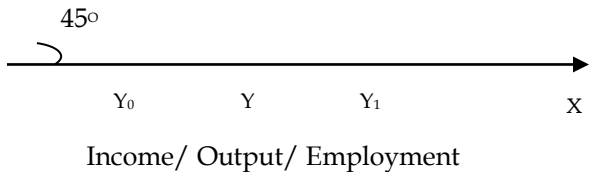
❖ **Equilibrium**

- Equilibrium is reached only when AD AS, because at this level there is no tendency for income and output to change.
- The economy is in equilibrium when aggregate demand, represented by the C + I curve is equal to the total output or aggregate supply represented by AS curve.

- The aggregate demand curve shows the desired level of expenditure by consumers and firms corresponding to each level of output.







- The economy is in equilibrium at point E where the AD curve intersects the 45° line.

❖ **How AS and AD adjust to each other? (Adjustment Mechanism)**

Equilibrium occurs when planned spending or AD equals planned output or AS. In free economy, when AD is not equal to AS, then output will tend to adjust up or down until the two are equal again.

(i) If AS>AD or AD<AS

- When AS is greater than AD, flow of goods and services in the economy tends to exceed than demand.

In other words, planned spending is less than planned output.

- This means that consumers and firms together would be buying less goods than firms produce. As a result, some of the goods would remain unsold.
- To clear unwanted stock (inventory), the firms would plan out less production. This process of decrease

in output will continue until the economy is back at output level OY. As a result, AS would reduce and become equal to AD.

- If AS > AD, there will be tendency of decrease in production and national income till it reaches equilibrium level of income at which AD = AS.

(ii) If AS <AD or AD > AS

- When AD > AS, flow of goods and services in the economy tend to be less then their demand. In other words, planned spending is more than planned output.
- This means that consumers and firms together would be buying more goods than firms produce. As a result the existing stock (inventory) of producers would be sold.
- To rebuild the desired stock, the producers would plan greater production for the following year. In other words, producers respond by producing more output. More output means more income.
- This process of increase in output will continue until the economy is back at output level OY. As result AS would increase to become equal to AD.
-

- In this case, there will be tendency of increase in production and national income till it read equilibrium level of income at which AD = AS.

Saving (S) and Investment (I) Approach

- Two approaches of determining the equilibrium AD = AS and S=I are same.
- The saving and investment approach is derived from AD AS.

AD = C + I, AS = C + S

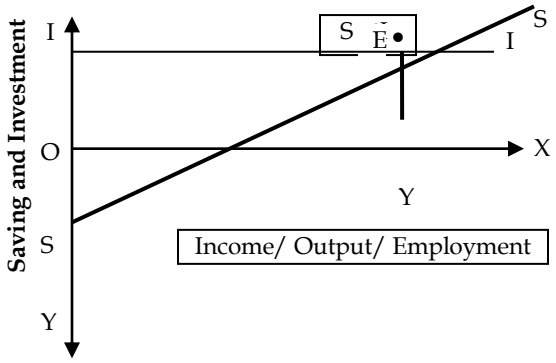
At equilibrium, AD = AS

Or

C + I = C + S

I = S

- The equilibrium level of income and output is that level at which planned savings and planned investments are equal.
- In other words, equilibrium level of income and output is determined where planned saving is equal to planned investment or where saving and investment curves intersect each other.



- In the diagram SS is the saving curve that shows planned saving at different levels of income.
- Saving curve SS starts from a negative value because there must be some consumption when income is zero.
- II shows fixed level of investment as it is assumed that investment is given and is constant (autonomous investment).
- Both the curves intersect at point E which is the point of equilibrium.

- Thus, at output level OY, firms plan to invest an amount equal to EY. Also, households plan to save an amount equal to EY. Therefore, OY is the equilibrium level of income and output as at this level planned savings and investments are equal.

How Saving (S) and Investment (I) adjust to each other (Adjustment Mechanism)

Equilibrium occurs when planned saving equals planned investment. In free economy, when saving is not equal to investment, then output will tend to adjust up or down until the two are equal again.

(i) If Saving (S) > Investment (I)

- At 0Y1 level of income, the saving curve lies above the investment curve.
- At this level of income household savings are more than firms planned investment. In other words, buyers are not spending to match with the investment plan of the producers.
- As a result there will be an undesired, unplanned build-up of stock or inventories of unsold goods in the economy.
- In order to reduce the unsold stock to the desired level firms will cut their output and reduce employment.
- Lesser output implies lesser investment, lesser employment and lesser income.

(ii) If Investment (I) > Saving (S)

- At 0Y2 level of income, the saving curve lies below the investment curve.
- At this level of income household savings are less than firms' planned investment. In other words, buyers are planning to spend beyond what the producers are planning to invest.
- As a result there will be an undesired, unplanned reduction of stock or inventories of unsold goods in the economy.
- In order to increase inventories or stock to the desired or planned level firms will increase output and employment.
- Increase in output implies increase in investment, increase in employment and increase in income.
- This tendency of increasing output will continue until it reaches the equilibrium level of income, where planned savings equals planned investment.

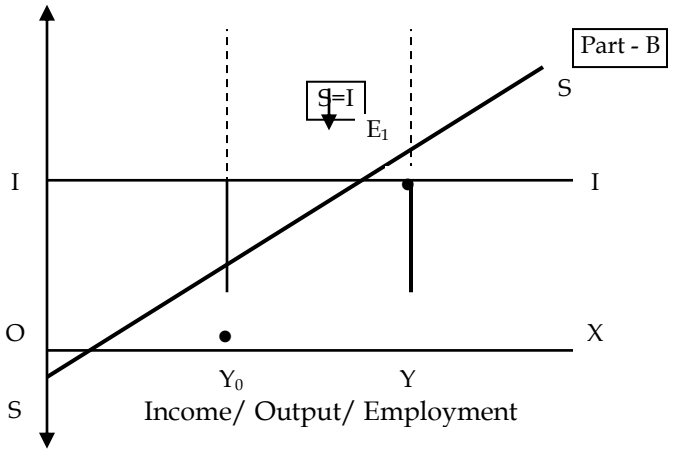
❖ **Simultaneous equality between AD- AS and S-I approach**

(a) Schedule of AD - AS and S - I equilibrium (In Rs Crores)

AS = Y	C	I	AD = C + I	S = Y – C	TENDENCY
0	10	10	20	—10	**AD>AS or S<I**

10	15	10	25	-5	**(Y↑)**
20	20	10	30	0	
30	25	10	35	5	
40	30	10	40	10	**Equi.(AD=AS)**
50	35	10	45	15	**AS>AD or S>I**
60	40	10	50	20	**(Y↓)**

(b) Diagram



Investment Multiplier

❖ **Meaning**

- Investment multiplier (K) or multiplier is the ratio of change in national income (ΔY) to the change in investment (ΔI).

$$K = \frac{\Delta Y}{\Delta I}$$

- K - Multiplier
- ΔY- Change in income
- ΔI- Change in investment
- For example- suppose investment increases by Rs 50 crore and as a result, national income increases by Rs 200 crores. The value of multiplier, in this case will be:

$$K = \frac{\Delta Y}{\Delta I}$$

$$K = \frac{200}{50} = 4$$

- Multiplier explains how many times the national income increases as result of an increase in the investment.

❖ **Relationship of 'K' with MPC and MPS**

- Value of multiplier depends on the value of MPC and MPS.
- There is a direct relationship between MPC and the value of multiplier (K). Higher the MPC, higher will be the value of multiplier (K) and vice-versa.

$$K = \frac{1}{1 - MPC}$$

- There is an inverse relationship between MPS and the value of multiplier (K). Higher the MPS, lower will be the value of multiplier (K) and vice-versa.

$$K = \frac{1}{1 - MPC}$$

- We know that MPC + MPS = 1
  Therefore, MPS = 1 — MPC

$$K = \frac{1}{MPS}$$

Table Working of the multiplier (Multiplier Mechanism)

- Multiplier mechanism or working of the multiplier can be explained with the help of an example.
- The operation of multiplier is based on the assumption that the expenditure of one person is another person's income.
- Let the MPC be at 1/2 or 0.5. (It shows that 50% of additional income will be spent.)
- There is an increase in investment of Rs 100 crores (ΔI = 100 crores).

❖ **Multiplier process**

- The working of the multiplier assumes the following process:
- Change in investment causes change in income. As a result, there is change in consumption. Consumption expenditure of one person is the income of the other. Hence, the change in consumption leads to change in income. This process continues till change in consumption (AC) falls to zero.

Change in investment	→	**Change in income**	→	**Change in consumption**	→	**Change in income**
ΔI	↑	**ΔY**	↑	**ΔC**	↑	**ΔY↑**

Period	**∆I(Rs. Crores)**	**∆Y(Rs. Crores)**	**∆C(Rs. Crores) MPC = 0.5**	**∆S(Rs. Crores) Leakage**
1	100	100	50	50
2	-	50	25	25
3	-	25	12.5	12.5
4	-	12.5	6.25	6.25
M	M	M	M	M
TOTAL	**100**	**200**	**100**	**100**

- The table shows that as additional investment increases by 100 crore, there will be change in income by 100 crore in first round. MPC is 0.5, therefore consumption will increase by 100 x 0.5 50 crore (AC = MPC x ∆Y), the remaining amount (50 crore) will be saved.
- Consumption expenditure of first round will increase the income by Rs 50 crore in the second round The change in consumption will be 50 x 0.5 25 crore, the remaining amount (25 crore) will be saved.
- This process of income generation will go on and the consumption expenditure in every round will be half of the additional income received from the previous round.
- When MPC is 0.5, this process of multiplier continues in the secondary rounds till the total income generation from Rs.100crores of investment rises to Rs.200crores.
- This is clear from the multiplier formulae.
  Now

$$K = \frac{1}{1-MPC} = \frac{1}{1-0.5}$$

$$K = \frac{1}{0.5} = 2$$

$$K = \frac{\Delta Y}{\Delta I}$$

$\Delta Y = K\ \Delta I$ ($K = 2$, $\Delta I = 100$)

$\Delta Y = 2 \times 100$

ΔY = Rs.200Crores

- **Diagrammatic representation**
- **Maximum and Minimum Value of Multiplier**

- The maximum value of multiplier is infinity when the value of MPC (MPC = 1) is one or MPS is zero (MPS 0).

We know that, $K = \frac{1}{1 - MPC}$

When MPC = 1

Then $K = \frac{1}{1-1}$

$K = \frac{1}{0} = \infty$

- The minimum value of multiplier is one when the value of MPC (MPC = 0) is zero or MPS is one (MPS 1).

We know that, $K = \frac{1}{1 - MPC}$

When MPC = 0

Then $K = \frac{1}{1-0}$

$K = \frac{1}{1} = 1$

- The consumption function may be represented by the following equation:
  C = $\bar{C}$ + bY
- C = Consumption
- Y = level of income
- $\bar{C}$ =Autonomous Consumption (the amount of consumption expenditure when income is zero i.e., $\bar{C} > 0$)
- b (MPC) Marginal Propensity to Consume (0 <b < 1)

saving function

s = -s +by

Practicals on Determination of Equilibrium Level

1. Calculate AD, AS for every level of income and the equilibrium level, from the following schedule: (assuming that the investment is fixed at Rs 40 crores)

Income	100	200	300	400	500	600
Consumption	120	200	280	360	440	520

2. Calculate aggregate demand (AD), aggregate supply (AS) for all levels and the equilibrium level of income from the given schedule, if the investment is fixed at Rs 20 crores:

Income	0	10	20	30	40	50	60	70	80	90	100

Consumption	20	25	30	35	40	45	50	55	60	65	70

3. In a two-sector economy, the income and consumption functions are: Y C + I and C = 50 + 0.80Y. If the investments are Rs 50 crores, calculate: (a) Equilibrium level of income; (b) Level of consumption at equilibrium; (c) Saving at equilibrium.

4. The function of saving (S) is given to be: S = —40 + 0.25Y. If planned investments are Rs 100 crores, determine: (a) Equilibrium level of income; (b) Level of consumption at equilibrium; (c) Saving at equilibrium.

5. The saving function of an economy is given as: S = — 50 + 0.4Y. The economy is in equilibrium at the income level of Rs 1,500 crores. Calculate: (a) Investment at equilibrium income level; (b) Autonomous consumption; (c) Multiplier.

6. The consumption function is expressed as: C = 100 + 0.25Y (where C = consumption expenditure and Y National Income). Calculate saving if consumption expenditure at equilibrium level of national income is Rs 500 crores.

7. The consumption function of an economy is given as: C = 200 + 0.75Y, If planned investments are Rs 500 crores, calculate equilibrium level of national income.

8. In an economy, the consumption function is C = 600 + 0.9Y, where C is consumption expenditure and Y is income. Calculate the equilibrium level of income and consumption expenditure, when investment expenditure is 500.

9. In an economy S = — 50 + 0.5Y is the saving function (where S = saving and Y = national income) and investment expenditure is Rs 7,000. Calculate: (i) Equilibrium level of national income. (ii) Consumption expenditure at equilibrium level of national income.

10. In an economy, C = 300 + 0.8Y and I = 500 (where C = Consumption, Y Income, I = Investment). Calculate the following: (a) Equilibrium level of income; (b) Consumption expenditure at equilibrium level of income.

11. The consumption function is given as C = 75 + 0.75Y and autonomous investment is Rs 100 crore. Derive the saving function and calculate the level of income at which saving is equal to investment.

12. From the following information about an economy, calculate (i) its equilibrium level of national income, and (ii) saving at equilibrium level of national income. Consumption function: C 200 + 0.9Y (where C = consumption expenditure and V = national income) Investment expenditure: I = 3,000.

EXCESS DEMAND AND DEFICIENT DEMAND

Involuntary Unemployment, Voluntary Unemployment and Full Employment

(A) Involuntary Unemployment

- Involuntary unemployment occurs when those who are able and willing to work at the prevailing wage rate do not get work.
- In other words it is a situation in which all able people who are willing to work at the prevailing wage rate cannot get work..

(B) Voluntary Unemployment

- It refers to a situation when people are not willing to do work although suitable work is available for them. Such people are included in labour force.
- If the voluntary unemployment exists in the economy, it is not counted as underemployment.

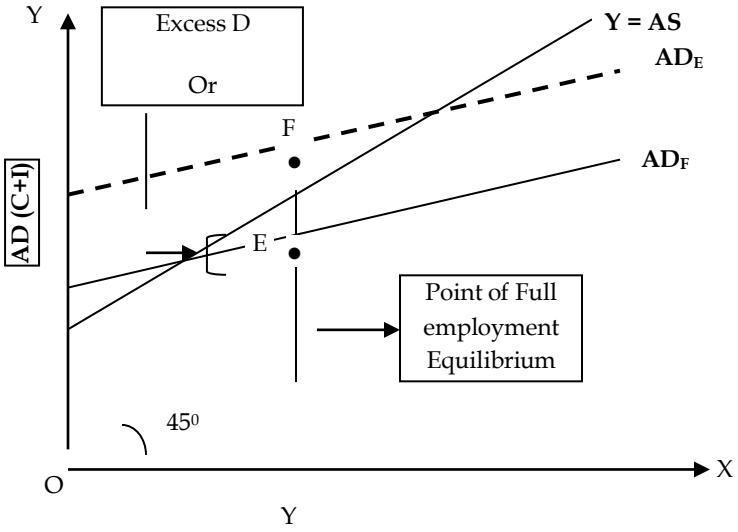
(C) Full Employment

- It refers to a situation in which every able person who is willing to work at prevailing wage rate is employed.
- It is also defined as a situation where there is no involuntary unemployment.
- According to Keynes, when an increment in AD does not result in an increase in level of output and employment, it shows the state of full employment

Excess Demand Implies Inflationary Gap

- Excess demand gives rise to an inflationary gap, which causes rise in the price level or inflation.
- Inflationary gap is equal to the difference between the value of AD beyond full employment and AD at full employment.
- It is a measure of excess demand. The gap is called inflationary as it causes inflation (continuous rise in prices) in the economy.
- Output level remains constant corresponding to full employment, only prices tend to rise.

Diagram



Income/Output/Employment

- X-axis measures the level of output-employment and income.
- Y-axis measures the AD(consumption + investment demand or AD = C + 1).
- OY is the full employment level of output and income, which is determined at E point where AD curve (C + 1) intersects 45° line or income line.

AD (EY) = AS (OY)

- Suppose due to increase in investment expenditure (I) AD curve shift upwards or AD rises from APF to AD1, i.e. EF, corresponding to OY full employment level of output.
- The difference between the two is FE (YF — YE) which is a measure of inflationary gap or excess
  Demand.
- The value of AD at full employment is YE

- The value of AD beyond full employment is YF (planned AD).
- Excess demand or inflationary gap = value of AD beyond full employment (—) value of AD at full employment.
- Excess demand = YF — YE = FE.

Reasons or Causes for Excess Demand

Following are the main causes of excess demand-

(i) Increase in household consumption expenditure due to rise in propensity to consume or fall in propensity to save.
(iii) Increase in private investment demand because of rise in credit facilities or decrease in rate of interest.
(iv) increase in government expenditure.
(v) Rise in exports and fall in imports.
(vi) Increase in money supply by deficit financing (It means financing the budget deficit by printing of more notes).
(vii) Increase in disposable income because of reduction in taxes.

Impact of Excess Demand

Generally excess demand results in inflation (continuous rise in prices) without increase in output and employment. But in different situation in the economy, impact will also be different.

(i) Effects on Output and Employment

- if there is a state of involuntary unemployment in the economy and the unemployed factors become ready to work, a rise in aggregate demand will lead to an increase in output and employment, without an increase in price level.
- If there is a state of full employment level in the economy (no involuntary unemployment), excess demand will result in inflation or general price level will increase. Employment and output will not increase because all the available resources are already being fully utilized.

(ii) Effects on General Price Level

- Excess demand causes a continuous or persistent rise in general price level. In other words, excess demand implies a situation of inflation.

Deficient Demand

❖ **Meaning**

- The excess of aggregate supply (AS) over aggregate demand (AD) at full employment level in the economy is called excess supply.

- it refers to the situation when aggregate supply (AS) is in excess of aggregate demand (AD) or AS excess AD corresponding to full employment in the economy.
- In other words it refers to the situation when AD is short of AS corresponding to full employment in the economy.

AS > AD: Corresponding to full employment.

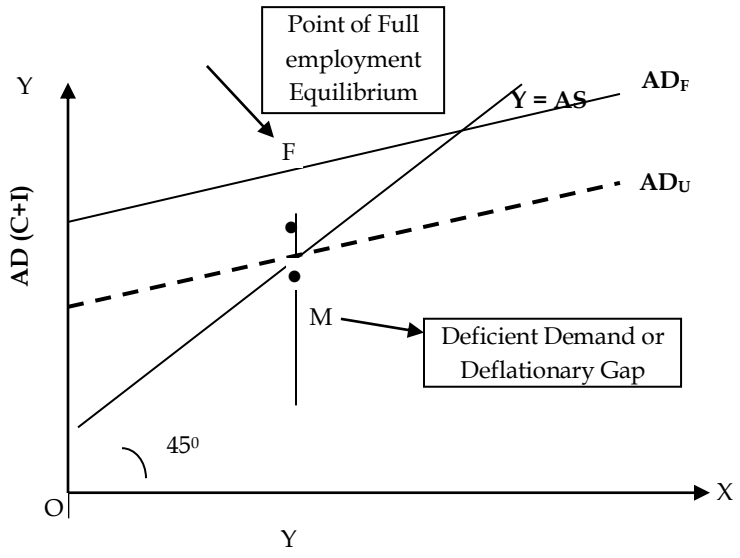
Or

AD <AS: corresponding to full employment

Deficient Demand Implies Deflationary Gap

- Deficient demand gives rise to a deflationary gap, which causes a fall in the price level or deflation.
- It is the difference between the actual level of AD and the level of AD required to establish the full employment equilibrium
- It is equal to the difference between AD at full employment and AD at under employment.
- It is a measure of deficiency in AD. The gap is called deflationary because it leads to deflation (continuous fall in prices)
- It is a situation of low output —> low income —> low employment.

Diagram



Income/Output/Employment

- X-axis measures the level of output-employment and income.
- Y-axis measures the AD (consumption + investment demand or AD = C+ I).
- OY is the full employment level of output and income, which determined at E point where AD curve (C + I) intersects 45° line.

- AD(EY) = AS(OY)
- Suppose due to decrease in investment expenditure (I) AD curve shift downwards or AD falls from ADF to ADU, i.e. EM, corresponding to OY full employment level of output.
- The difference between the two is EM (EY—MY) which is a measure of deflationary gap or deficient demand.
- The value of AD at full employment is EY
- The value of AD at under employment is MY.
- Deficient demand or deflationary gap = value of AD at full employment (—) value of AD at underemployment.
- Excess demand = EY — MY = EM.

Reasons or Causes for Deficient Demand

Following are the main causes of deficient demand-

(i) Decrease in household consumption expenditure due to fall in propensity to consume or rise in propensity to save.
(ii) Decrease in private investment demand because of fall in credit facilities or increase in rate of interest.
(iii) Decrease in government expenditure.
(iv) Fall in exports and rise in imports.
(v) Decrease in money supply.
(vi) Decrease in disposable income because of rise in taxes.

(i) Effects on Output and Employment

- Because of deficient demand, there will be an increase in the inventory stock. It will force the producers to plan lesser production. Due to fall in planned output, there will be involuntary unemployment in the economy.
- In other words, deficient demand causes the economy's income, output and employment to decline. thus pushing the economy into underemployment equilibrium.

(ii) Effects on General Price Level

Deficient demand causes a fall in the general price level. In other words, deficient demand implies a situation of deflation.

Measures to Correct or Control Excess Demand and Deficient Demand

- The stability of economy requires that the situation of excess demand or deficient demand is corrected.
- Finally measures are taken to rectify the situation of excess and deficient demand.

❖ **Measures or Remedy for Excess Demand**

In order to remedy the problem of excess demand, the aggregate demand (AD) has to be reduced by an amount equal to the inflationary gap. This will keep the economy at full employment equilibrium but will lower the price level and thus inflation is controlled. The AD may be reduced by taking resources to fiscal policy or to monetary policy or both.

❖ **Measures or Remedy for Deficient Demand**

In order to remedy the problem of deficient demand, the aggregate demand (AD) has to be increased by an amount equal to the deflationary gap. This will keep the economy at full employment equilibrium. The AD may be increased by taking resources to fiscal policy or to monetary policy or both.

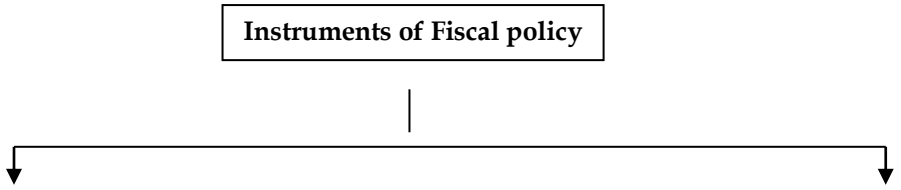
(A) Fiscal Policy

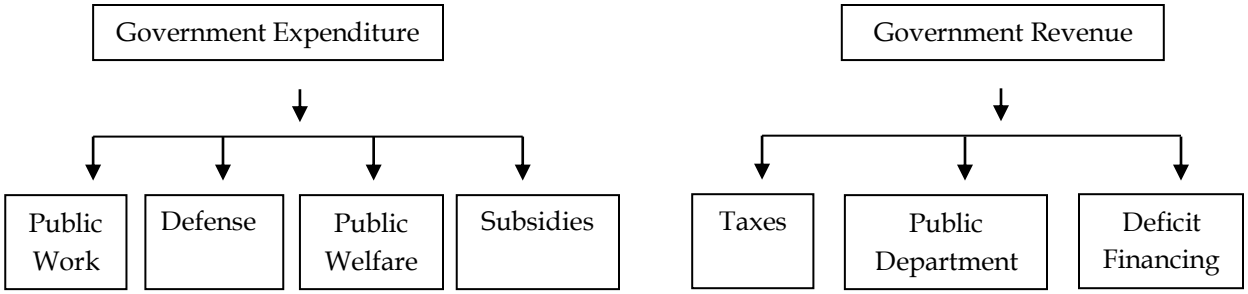
Meaning

- Fiscal policy is the taxation and expenditure policy of the government.
- It refers to the revenue and expenditure policy (Budgetary policy) of the government to control the flow of purchasing power in the economy so that inflationary and deflationary pressures are regulated.
- Fiscal policy is concerned with the aggregate effect of government expenditure and taxation on income output and employment.

❖ **Fiscal Measures (Tools or Instruments)**

- Fiscal measures which are to be adopted in a situation of excess demand or inflation should aim at curtailing the purchasing power of the people and the level of AD in the economy.
- Fiscal measures which are to be adopted in the situation of deficient demand or deflation should aim at increasing the purchasing power of people and the level of AD in the economy.
- In this regard, following measures should be adopted:





(a) Taxes

❖ **Meaning of Tax**

- A tax is a compulsory payment to government without expectations of direct benefit to the tax payers.
- In other words, a tax is a compulsory charge or payment imposed by government on individuals or corporations.

❖ **During Excess Demand**

- During inflation, government should raise rate of all taxes especially on rich people because taxation withdraws purchasing power from the tax payers and to that extent reduces effective demand. High taxes restrict people from consuming and firms from investing; hence both consumption (C) and investment (I) reduce AD. C and I are the components of AD, therefore AD will fall down.
- If the government's increasing the amount of taxes equals the inflationary gap, it will restore the economy at the full employment equilibrium.

❖ **During Deficient Demand**

- Taxes should be decreased leaving the households with more purchasing power and the firms with more cash reserves. As a result both households as well as investors will be encouraged to spend more. Consequently demand will increase.
- If the government's reducing the amount of taxes equals the deflationary gap, it will restore the economy at the full employment equilibrium.

(b) Government Expenditure (Public Expenditure)

❖ **Meaning of Public expenditure**

Public expenditure refers to the expenses incurred by the government for the maintenance of the government and to preserve the welfare of society as a whole.

❖ **During Excess Demand**

- During excess demand, government should curtail its expenditure on public works such as roads. buildings, maintenance of law and order and defence of country, irrigation work etc., thereby reducing the money income of the people and their demand for goods and services. Government should reduce the budget deficit.
- Reduction in government expenditure equal to the inflationary gap will remove the problem of excess demand.

❖ **During Deficient Demand**

- During period of deficiency in demand, the government should make huge investments in public work like construction of roads, bridges, canals etc. Although it may enlarge budget deficit, all of these will raise the government purchase which in turn will raise the level of AD.
- If the government expenditure is increased by an amount equivalent to deflationary gap, it will restore the economy at the full employment equilibrium.

(c) Deficit Financing

❖ **Meaning of Deficit financing**

It is a way of printing more notes for additional government expenditure.

❖ **During Excess Demand**

Deficit financing (printing of notes) should be restricted because it leads to increase in demand (during excess demand).

❖ **During Deficient Demand**

Deficit financing is increased during times of deficient demand so that the overall level of purchasing power is increased in the economy.

(d) Public Borrowing

❖ **Meaning of Public Borrowing**

It refers to loans raised by a government within the country or outside the country.

❖ **During Excess Demand**

During excess demand, public borrowing should increase so that people are left with lesser purchasing power.

❖ **During Deficient Demand**

During deficient demand, public borrowing should be reduced so that people are left with greater purchasing power.

❖ **Conclusion**

- During period of excess demand government should adopt the policy of surplus budget, increasing its revenue and decreasing its expenditure as much as possible.
- During period of deficient demand, the government should adopt the policy of deficit budget, increasing its expenditure and minimizing revenue proceeds.

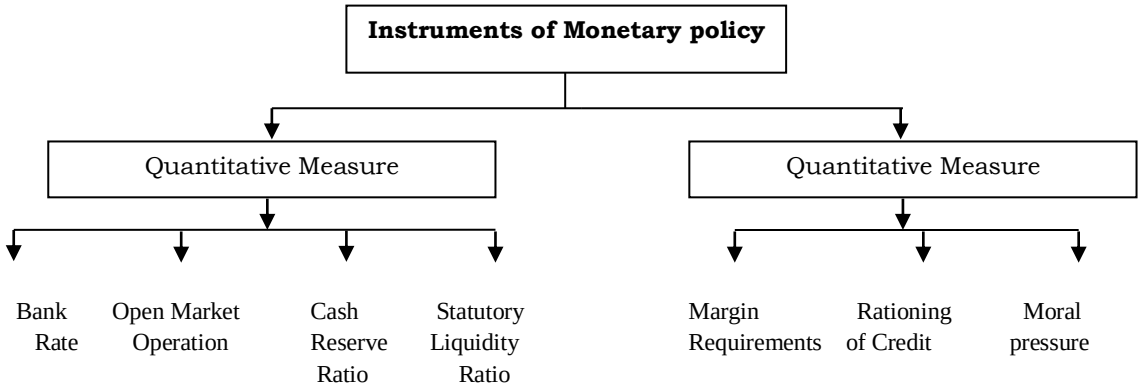
(B) Monetary Policy

❖ **Meaning**

- It is the policy of central bank of a country to control money supply and credit in the economy.
- In other words, it refers to the money supply (credit policy) of the government to control the flow purchasing power in the economy so that inflationary or deflationary pressures are controlled.

❖ **Monetary Measures (Tools or Instruments)**

- In the situation of excess demand, availability of credit is restricted. Monetary policy is separated by the central bank of the country.
- in the situation of deficient demand, the credit is made cheap and easily available.
- Following are the credit control measures:



(a) Quantitative Measures

- Quantitative measures are meant to regulate the overall level or volume of credit in the economy through commercial banks.
- Quantitative measures are also known as general or indirect measures of credit control.

(b) Qualitative Measures

- Qualitative credit control measures aim at controlling specific types of credit. Instruments of qualitative credit control deal with the allocation of credit..
- Qualitative measures are also known as selective or direct measures of credit control.

Measures of Credit Control (Quantative Measures)

S.No	Tool or Instrument (Meaning)	Excess Demand (AD>AS) Or Inflation	Deficient Demand (AD<AS) Or Deflation
1.	**Bank Rate** • Bank rate is the rate of interest at which central bank lends funds (money) to commercial banks, Or • It is the lending rate of the central bank at which it rediscounts first class bills of exchange and government securities held by the commercial banks.	**Increase in Bank rate** • During excess demand or inflationary gap, central bank increases the bank rate, Borrowings become costly and commercial banks borrow less from central bank, • Increase in the bank rate forces commercial banks to increase their lending rates to the community and general public, This makes credit costlier. • As a result, borrowers borrow less from commercial banks for consumption and investment. Since consumption (C) and investment (I) are the components Of AD ,AD falls.	**Decrease in Bank rate** • During deficient demand or deflationary gap, central bank decreases or lowers the bank rate. • It is cheap to borrow from the central bank on the part of commercial banks. Commercial bank also decreases their lending rates. • Investors are encouraged to borrow more. Investment is encouraged. Output, employment, income and AD start rising.

2.	**Open Market Operations (OMO)** Open market operations refer to the buying and selling of government securities and bonds by the central bank from and to the general public and banks.	**Sale of securities** • During excess demand or inflation, the central bank starts selling government securities in the market. The resources of commercial banks are reduced and they are not in a position to lend more to the business community. • This reduces the investment and aggregate demand.	**Purchase of securities** During deficient demand or deflation, the central bank starts buying or purchasing securities from the open market. The reserves of commercial banks are raised and they lend more. Investment, output, income and AD rise.
3.	**Cash Reserve Ratio (CRR)** CRR is the ratio of bank deposits that commercial bank has to keep with the central bank,	**Increase in CRR** • During excess demand or inflation the central bank increases the cash reserve ratio. • An increase in the CRR has the effect of reducing the banks' excess reserves and thus curtails their ability to give credit. • In other words, the reserves of commercial banks' are reduced and they lend less. The volume of investment and AD will decrease.	**Decrease in CRR** • During deficient demand or deflation, the central bank decreases the cash reserve ratio. • A decrease in the CRR has the effect of increasing the banks' excess reserves and thus increases their ability to give credit. • In other words, the reserves of commercial banks are raised and they lend more. The volume of investment and AD will increase.
4.	**Statutory Liquidity Ratio (SLR)** • Every bank is required to maintain a fixed percentage of its assets in the form	**Increase in SLR** • During excess demand or inflation the central bank increases the SLR • An increase in the SLR has the effect of reducing the banks'	**Decrease in SLR** • During deficient demand or deflation, the central bank decreases the SLR. • A decrease in the SLR has the effect of increasing the banks' excess reserves and thus increases their ability to give

	of cash or other liquid assets called SLR. Or • SLR is the ratio of demand deposits of a commercial bank, which it has to keep in the form of special liquid assets,	excess reserves and thus curtails their ability to give credit, • In other words, the reserves of commercial banks are reduced and they lend less. The volume of investment and AD will decrease.	credit. • In other words, the reserves of commercial banks are raised and they lend more. The volume of investment and AD will increase
Qualitative Measures			
5.	**Margin Requirements (MR)** A margin is the difference between the amount of the loan and market value of the security offered by the borrowers against the loan,	**Increase in MR** During excess demand or inflation, central bank increases the limit of margin requirements. The result is that the borrowers are given less money in loans against specified securities, This discourages borrowings and it decreases the level of AD in the economy.	**Decrease in MR** During deficient demandor deflationary gap, central bank decreases the limit of margin requirements. The result is that the borrowers are given more money in loans against specified securities, This encourages borrowings and it increases the level of AD in the economy.
6.	**Rationing of Credit** It refers to fixation of credit quotas for different sectors of the economy.	**Rationing Starts** During excess demand or inflation the central bank fixes the credit quotas for different business activities. The commercial banks cannot exceed the quota limits while granting loans.	**Rationing Stops** During deflation, credit rationing, if already in operation, is stopped.
7.	**Moral Pressure** It refers to written or oral advices given by central bank to commercial banks	In the situation of excess demand, commercial banks are generally advised to be selective in lending.	During deflation, commercial banks are advised by the central bank to be liberal in lending.

	to restrict or expand credit.		