

DETERMINATION OF INCOME AND EMPLOYMENT PART I

AGGREGATE DEMAND AND RELATED CONCEPTS

ECONOMICS DEPARTMENT

JAWAHAR VIDYA MANDIR, SHYAMALI

INTRODUCTION

- ▶ The term determination refers to “determination of equilibrium level” .The term income refers to “National Income” and Employment refers to “employment of resources” .Since the subject matter is macro economics relating to the study of the economy as a whole therefore the topic of study is the determination of equilibrium level of national income and employment of in an economy.
- ▶ The Great Depression of 1930 gave a severe blow to the Classical belief by demonstrating that Full employment is not a normal situation. There was lack of Aggregate Demand in comparison to Aggregate Supply. Keynes in his book General Theory Of Employment Interest And Money gave more importance to Effective Demand and believed that Full Employment is not a necessary condition of an Exchange Economy. Equilibrium can exist even with under employment.

AGGREGATE DEMAND-MEANING

Following are Important Aspect of Keynes Theory

- ▶ Concept of **EX-ANTE AGGRERATE DEMAND**
- ▶ This refers to The total volume of final goods and services demanded in an economy given the level of income and employment in the country in an accounting year. In other words AD also expresses the total amount of expenditure incurred by the people on the purchase of goods and services during a year. Hence aggregate demand equals aggregate expenditure.
- ▶ $\text{Aggregate Demand} = \text{Planned Consumption Expenditure} + \text{Planned Investment Expenditure}$.

Components of Ex -Ante Aggregate Demand

1.Private (Household) Consumption Expenditure-

- ▶ Total Expenditure by the Households on purchase of final goods and services during an accounting year.
- ▶ Household Consumption Expenditure depends on household disposable income and Propensity to consume.
- ▶ Disposable Income refers to income from all sources which is available to household for spending on consumption and saving.
- ▶ Propensity to consume depends upon the proportion of income which people are to spend on consumption.

2. Government consumption expenditure

- ▶ Total expenditure incurred by the government on consumer goods and capital goods to satisfy the common needs of the people.
- ▶ Government Expenditure is determined by the policy of the government which is generally guided by public welfare hence this expenditure is termed as autonomous expenditure(independent of profit motive)
- ▶ Government expenditure includes--.
- ▶ Consumption expenditure to meet common needs such as law and order, education ,health etc.
- ▶ Investment expenditure such as construction of roads, power plants etc.

3.Private Investment Expenditure

- ▶ This refers to the total expenditure incurred by all the private entrepreneurs on purchase of Capital goods. OR Investment Expenditure that increases the stock of capital assets such as plant and equipment ,factories etc. Which helps in output growth and employment.
- ▶ Private Investment Demand is referred as Induced Investment.
- ▶ Private Investment Demand depends on Rate of Interest and Expected Return on such Investment.
- ▶ Investment is considered worthwhile if the opportunity cost of making investment i.e. rate of interest is lower than the expected return on such investment.

4. Net Exports Demand (X-M)

- ▶ Net Exports is the difference between the Value of Exports and the Value of Imports.
- ▶ Exports refer to the demand for goods produced within the domestic territory of a country by the rest of the world.
- ▶ Imports refer to the demand of the residents of the country that have been produced abroad.
- ▶ The magnitude of Net Exports Demand depends on Rate of Exchange, Relative prices of goods, Exchange Duties, Trade Policy etc.

Therefore,

$$\begin{array}{ccccc} \text{AGGREGATE} & = & \text{CONSUMPTION} & + & \text{INVESTMENT} \\ \text{DEMAND} & & \text{DEMAND} & & \text{DEMAND} \end{array}$$

OR

$$AD = C + I$$

Also ,Aggregate Demand is the sum of four components

$$\begin{array}{ccccccc} \text{AGGREGATE} & = & \text{PRIVATE} & + & \text{GOVERNMENT} & + & \text{PRIVATE} & + & \text{NET EXPORTS} \\ \text{DEMAND} & & \text{CONSUMPTION} & & \text{EXPENDITURE} & & \text{INVESTMENT} & & \end{array}$$

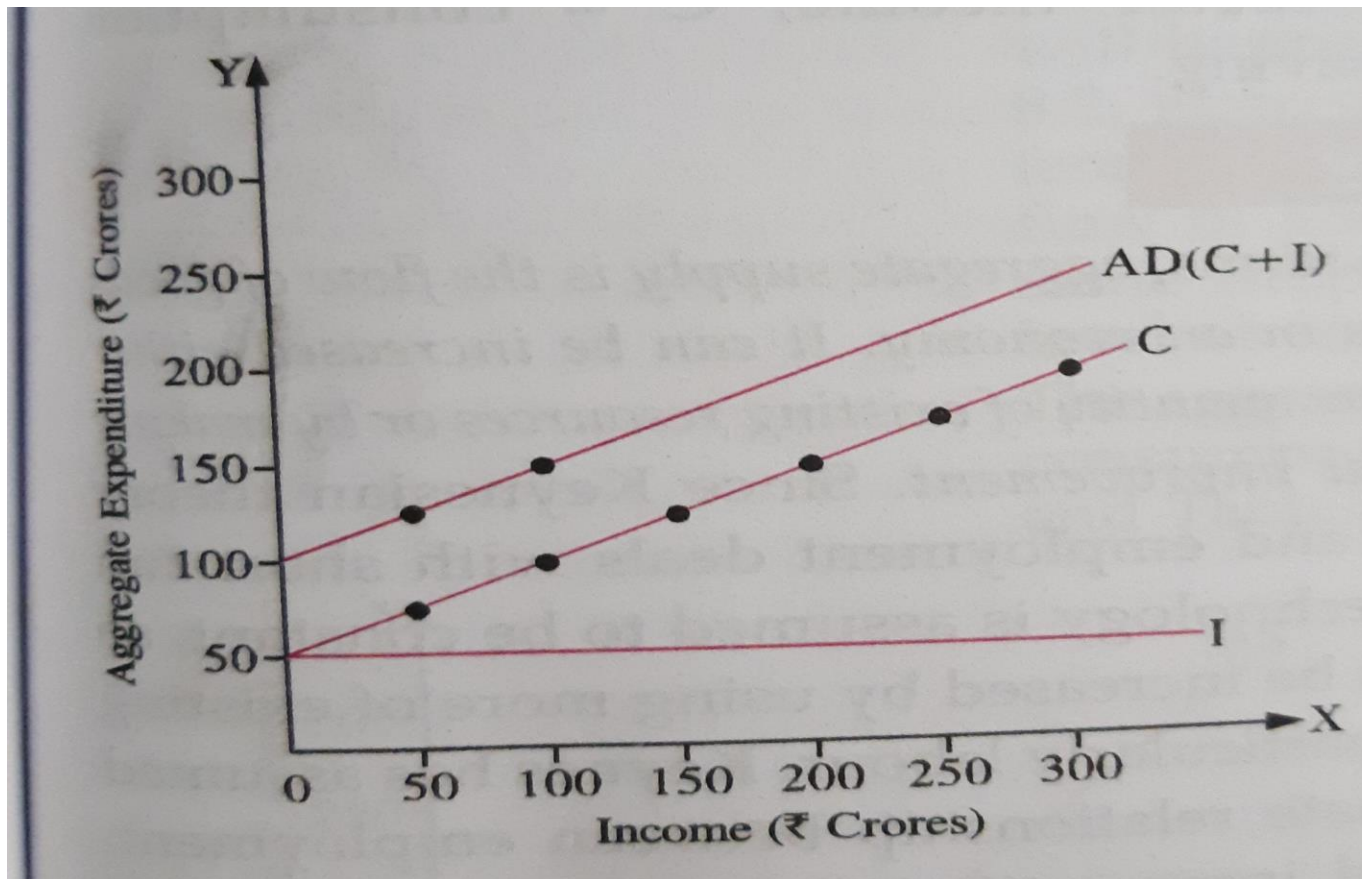
OR

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

TABULAR REPRESENTATION OF AGGREGATE DEMAND

Level of Employment (in lakhs) (N)	Level of Income (₹ crores) (Y)	Consumption Expenditure (₹ crores) (C)	Investment Expenditure (₹ crores) (I)	Aggregate Expenditure (₹ crores) $AD = C + I$
0	0	50	50	100
10	50	75	50	125
20	100	100	50	150
30	150	125	50	175
40	200	150	50	200
50	250	175	50	225
60	300	200	50	250

GRAPHICAL REPRESENTATION OF AGGREGATE DEMAND



The following conclusions can be drawn

- ▶ 1.Xaxis represents Income and Y axis represents
Aggregate Expenditure $= (C+I)$
- ▶ C-curve which is Consumption curve is a positive slope which shows as income increases consumption also increases but not in the same proportion.
- ▶ Consumption curve starts on a point on Y axis .This is because consumption cannot be zero at zero level of income. At zero level of income people survive on past savings or borrowings .At zero level of income consumption is autonomous consumption.
- ▶ The aggregate investment expenditure is autonomous which is independent of the level of income. As a result the investment expenditure curve(I)is a horizontal line parallel to X- axis.
- ▶ The AD curve is derived by adding consumption and investment at different levels of income, And this Aggregate demand rises with an increase in income.



ECONOMICS- CHAPTER-1 (INDIAN ECONOMIC DEVELOPMENT)

INDIAN ECONOMY ON THE EVE OF INDEPENDENCE

- **Some notable economists who estimated India's per capita income during the colonial period.**
 - Dada Bhai Naoroji
 - William Digby
 - Findlay Shirras
 - V.K.R.V. Rao and R.C.Desai
- **Some modern industries which were in operation in our country at the time of independence are as follows:**
 - Cotton and Jute textile mills
 - Iron and Steel industries
- **The two fold motives behind the systematic de-industrialization by the British in pre-independence period of India:**
 - To reduce India to the status of a mere exporter of important raw materials for the upcoming modern industries in Britain.
 - To turn India into a market for the finished products of the industries that were expanding in Britain.
- **The rate of growth of real output in our country during the first half of the twentieth century.**
 - Less than 2 per cent
- **The rate of growth of per capita output per year during the first half of the twentieth century.**
 - Half per cent or 0.5 per cent
- **The percentage of population dependent directly or indirectly on agriculture.**
 - 85 per cent
- **The main cause of agricultural stagnation during the British Rule was the various systems of Land Settlement that were introduced by the colonial government.**
- **Two causes for low productivity during the colonial rule.**
 - Low level of technology
 - Lack of irrigation facilities
- **Capital goods industries means industries which can produce machine tools which are in turn, used for producing articles for current consumption.**



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

- **GDP is the value of all final goods and services produced within the domestic territory of the country over one financial year period.**
- **Two industries which were under the Public Sector during the colonial period were:**
 - Railways
 - Power Generation
- **Some of the goods that India used to export during the British rule:**
 - Raw Silk, Cotton, Wool, Sugar, Indigo, Jute etc.
- **Some of the goods that India used to import during the British Rule were:**
 - Finished consumer goods like cotton, silk and woolen clothes.
 - Capital goods like light machinery produced in the factories in Britain.
- **The most important characteristics of India's foreign trade throughout the colonial period was that India generated a large export surplus as the value of its exports was much greater than its imports.**
- **The first census data during the British India was collected in 1881.**
- **1921 is regarded as the defining year to mark the demographic transition from its first to the second decisive stage.**
- **Infant Mortality Rate = (No. of new born dying before 1 year/No. of births)x 100**
- **Literacy Rate = (No. of Literates/ Total Population) x 100**
- **The focus of economic policies pursued by the colonial government in India was to make India an exporter of raw material for feeding the rapidly expanding modern industrial base.**

The impact of British policies was that on the eve of independence:

- Agricultural Sector had a lot of surplus labour and had extremely low productivity.
 - Industrial Sector was backward and lacked diversification.
 - Poverty and Unemployment was high.
 - Infrastructural facilities needed upgradation.
- **The main causes of India's agricultural stagnation were:**
 - Land Settlement System
 - Low level of technology
 - Lack of irrigation facilities
 - Negligible use of fertilizers
 - Partition also led a blow to agricultural production as a sizeable portion of country's highly irrigated and fertile land went to Pakistan.



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

- **The basic objective of infrastructure development was not to provide basic amenities to the people but to serve the colonial government's interest.**
 - The roads were built for mobilizing the army within India and for drawing out raw materials from the countryside to the nearest railway station or the port to send these to England or other foreign lands.
 - The railways helped in commercialization of Indian agriculture which adversely affected the comparative self-sufficiency of the village economies in India.
 - The introduction of the expensive system of electric telegraph in India served the purpose of maintaining law and order.
- **The industrial policy followed by the British colonial administration led to the decline of handicrafts but it did not lead to the development of a strong modern industrial sector. The primary motive behind this policy of deindustrialization was:**
 - To reduce India to the status of a mere exporter of important raw materials for the upcoming modern industries in Britain.
 - To turn India into a market for the finished products manufactured by industries in Britain.
 - There was no capital goods industry.
 - The rate of growth of the Industrial Sector was low as no help was being provided to these industries by the colonial government.
 - Area of operation of the public sector was limited to railways, power generation, communications, ports and some other departmental undertakings.
- **During the colonial period the demographic profile was as follows:**
 - The overall literacy level was less than 16%.
 - Female literacy was just 7%.
 - Life expectancy was also very low at 32 years.
 - Extensive poverty was present.
- **During the colonial period the occupational structure of India showed little sign of change. The largest share of workforce, i.e. 70-75% was in the agricultural sector. The manufacturing sector accounted for 10% and the service sector 15-20% respectively.**

Regional disparities were also an important feature.

- There was a decline in the dependence of the workforce on the Agricultural Sector in the parts of the Madras Presidency, Maharashtra and West Bengal and increase in the manufacturing and service sector.
 - There was an increase in the share of the workforce in agriculture in the states such as Orissa, Rajasthan and Punjab.
- **Positive contributions made by the British to India: Britishers did establish some important infrastructures of the economy which still help in the economic development of the country. For example:**



JAWAHAR VIDYA MANDIR SHYAMALI, RANCHI – 834002

- They introduced the railway system and improved the internal transport which brought together numerous local markets and fused them into a vast national market.
- They developed the modern system of communication. The first telegraph line was operated in 1853 between Calcutta and Agra. The first stamp was released in 1852. Improvements were made in the Postal Service. These developments helped in the integration of the different regions and helped in the development of trade, commerce and industry.
- The modern Banking System was established by Britishers. They formed the Imperial Bank of India. Till the establishment of RBI in 1935, The Imperial Bank served as government's banker and also managed its public debt.
- They developed irrigation works and created new grain and cotton producing regions.
- **India's handicrafts suffered a heavy decline on account of several adverse factors:**
 - England imposed and maintained restrictions and high import duties on the import of Indian fabrics into England.
 - The colonial administration pursued a policy of virtually free and unrestricted imports into India right upto 1923.
 - Indian handicrafts as well as the slowly emerging machine based industry were thus exposed to destructive foreign competition. The policy of free and unrestricted imports was somewhat toned down in 1923 when the policy of discriminating protection was adopted. But even this policy gave no protection to handicrafts as it was designed to exclusively benefit the newly emerging modern manufacturing industries.
 - The inhumane oppression and exploitation of artisans by the agents and servants of the company gave a severe blow to Indian Handicrafts.
 - Royal and Princely courts disappeared in the areas brought under direct British rule. The resulting loss of demand dealt further blow to traditional handicrafts.
 - While Indian Handicrafts largely catered to traditional Indian consumption patterns, the new rulers of the land had very different consumption habits, tastes and styles. The Indian upper classes particularly those with western education began to imitate the Britishers. As a result the consumption demand tended to shift from handicrafts to imported manufactures.
 - The Industrial revolution in England, with its use of steam driven machinery and a factory system of organization was a leap forward in industrial technology. On the other hand it was not easy to mechanize or organize handicrafts and machine made products were cheaper, if not superior in quality. In the face of unrestricted competition from the imported machine made goods, handicrafts steadily lost grounds.
- **The Indian economy was a backward economy on the eve of independence as over 70% of the population was engaged in agriculture and their contribution to the total output was there were not many industries and capital was mainly invested by the foreigners. There was a complete absence of any infrastructure for imparting knowledge or technical skills to the labourers.**



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

The following statistics reveal the extent of backwardness in the economy:

- Per capita income was low. It was Rs. 1274 in 1950-51 at 1980-81 prices.
- Large scale unemployment and under employment.
- Mass illiteracy with literates forming only 17% of the total population excluding children below 10 years. For rural areas this percentage was even lower.
- The birth rate and death rate were both high. With the decline of the death rate after 1920-1930, the growth rate of population increased.
- The agricultural sector was saddled with surplus labour and extremely low productivity.
- The Industrial Sector was crying for modernization, diversification, capacity building and public investment. There was no capital goods industry.
- Foreign trade showed a typical colonial pattern.
- Infrastructural facilities needed upgradation, expansion and public orientation.

ASSIGNMENT

SHORT ANSWER QUESTIONS:

1. Name some notable economists who estimated India per capita income during the colonial period. What was their estimate.
2. Explain the level of growth of aggregate and per capita output during British period.
3. Explain how was Zamindari system an important cause of agricultural stagnation during colonial period ?
4. Mention briefly the adverse effect of the decline of handicraft industries during colonial period.
5. Briefly mention positive effects of the development of railways by the British rulers on the Indian economy.
6. What were the main motives of the British rulers behind the beginning of railways in India?
7. Why could Indian shipping companies not succeed during British period? Give reasons.
8. What is meant by commercialization of agriculture? How did commercialisation of agriculture affect Indian economy during British rule?
9. What was the impact of India's agricultural sector at the eve of independence?
10. State the two-fold motive behind the de-industrialisation by the colonial government in India.
11. What were the two main drawbacks of the industrial sector during colonial period?
12. How did the British rulers policy adversely affect the foreign trade of India?
13. How had the export surplus proved disadvantageous to India during colonial period?
14. What were the main reasons for slow growth of population during British rule?
15. Give a brief account of qualitative aspect of population of India during British rule.
16. Mention two important features of India's occupational structure during British period.
17. What was the main motive of British rulers regarding the development of infrastructural (especially transport and communication) facilities in India?



LONG ANSWER QUESTIONS: (in about 120 words)

1. Explain the main focus of colonial economic policies in India. Briefly explain the impact of these policies.
2. State the level of economic development in India on the eve of independence.
3. What were the adverse impacts of the destruction of the Indian handicraft industries by the British rulers during colonial period?
4. Mention the state of Indian industries on the eve of independence.
5. What was the state of the development of the modern industries in the colonial period?
6. What were the main causes of India's agricultural stagnation during the colonial period?
7. What were the motives behind the systematic de-industrialization by the British rulers in India? Describe briefly.
8. What were the main intentions of British rulers behind the introduction of railways in India? What were the favourable impacts of the development of railways in colonial period on the Indian economy?
9. Briefly describe the state of infrastructural facilities during the British period.
10. Describe the state of India's occupational structure during British period.
11. Give a brief appraisal of India's demographic profile during the colonial period.
12. What is meant by export surplus? How did export surplus during British rule lead to the economic drain of Indian wealth?

(DO THE NCERT QUESTIONS ON THE BASIS OF THE NOTES AND BOOK)

Determination of Income And Employment PART----2

CONCEPT OF AGGREGATE SUPPLY

MEANING OF AGGREGATE SUPPLY

Ex-Ante Aggregate Supply refers to the planned volume of output available for purchase by the economy on an expected level of income and employment during a given period of time.

When all the entrepreneurs in the economy produce certain goods on a given level of employment, they must get a certain minimum amount of proceeds from the sale of the output which just makes it worthwhile to provide such a level of employment. Thus it represents the cost of producing output which is paid to the factors of production in the form of factor income as rent, wages, interest and profit. The sum total of these factor payments or factor income is net national product at factor cost. Net National Product At Factor Cost is also known as Aggregate Supply. This Net National Product at Factor Cost is also termed as National Income.

Since the major portion of national Income or Aggregate Supply is spent on consumption and the balance from the income is saved therefore Aggregate SUPPLY IS THE SUM TOTAL OF Consumption Expenditure and saving.

$$AS = C + S$$

OR

$$AS = \text{National Income} = \text{National Output} = \text{Sum of Factor Income} = \text{Rent Wages} + \text{Interest} + \text{Profit} = C + S.$$

Tabular Presentation of Aggregate Supply and Related Concepts

Level of employment	Level of Income	CONSUMPTION EXPENDITURE	SAVINGS	AGGREGATE SUPPLY
0	0	100	-100	0
10	100	150	-50	100
20	200	200	0	200
30	300	250	50	300
40	400	300	100	400
50	500	350	150	500

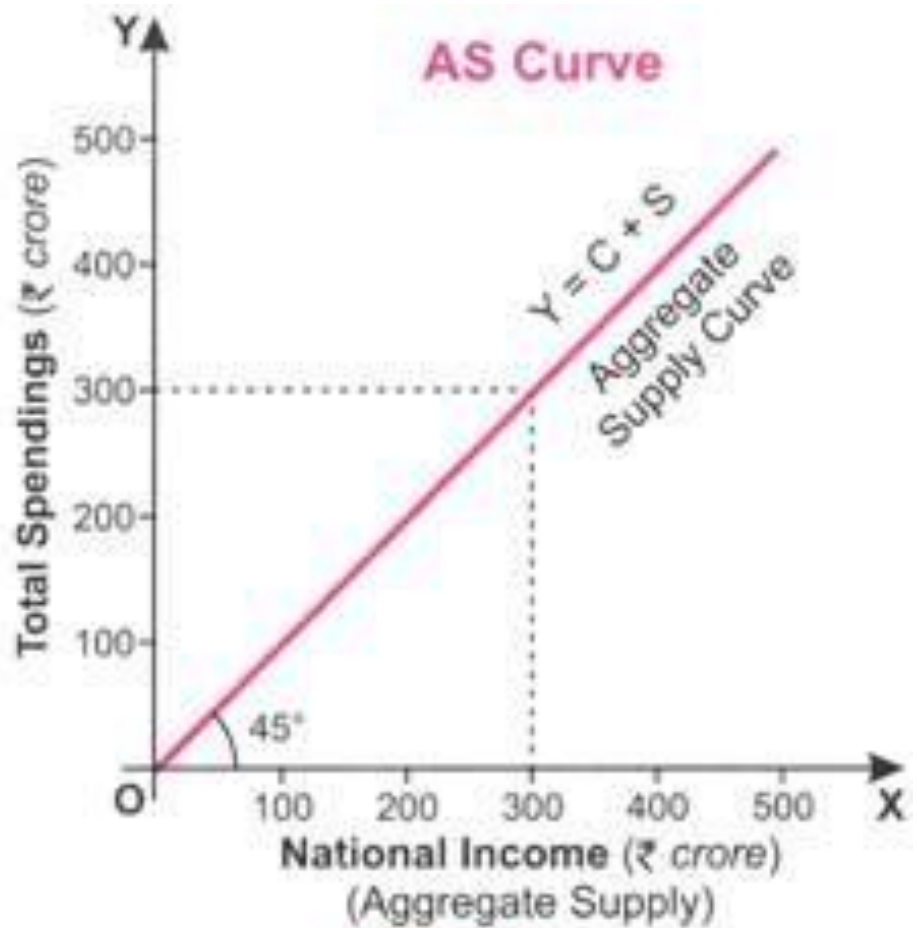


Fig. 8.2

Aggregate supply is a 45 degree line from the point of origin.

This shows Aggregate Supply which represents the flow of Goods and Services in the country increases or decreases in the same proportion as the level of Employment.

Aggregate Supply curve is also the sum of consumption and saving.

Since Keynes clarified in his analysis that there is underemployment in the economy, therefore Aggregate Supply is directly proportional to the level of Income and Employment in the economy till the level of full employment has not been achieved.

DETERMINATION OF INCOME AND EMPLOYMENT PART-3

CONSUMPTION FUNCTION OR PROPENSITY TO
CONSUME

Consumption Function refers to the functional relation between income and consumption. This indicates how much of the income will be spent on consumption. Consumption Function is generally expressed as: $c=f(y)$ where c =consumption expenditure=function and y =income.

Keynes Law of consumption states that as income increases ,consumption also increases but less than the increase in income. Consumption function can be illustrated with the help of the following table

LEVEL OF INCOME	CONSUMPTION EXPENDITURE
0	50
50	75
100	100
150	125
200	150
250	175
300	200

DIAGRAMATIC PRESENTATION OF CONSUMPTION FUNCTION

The following diagram shows that consumption increases with the increase in income. The minimum level of consumption at zero level of income is Rs.50 crores and this is the point from where consumption curve starts and this 50 Crores level of consumption is termed as Autonomous Consumption.

The point E where income is equal to consumption is known as the Break Even Point.

PRIOR TO POINT E, consumption exceeds income i.e. where $C > Y$, it indicates Dissaving.

After Point E Since Income is greater than Consumption i.e. $Y > C$ OR $C < Y$ indicates savings.

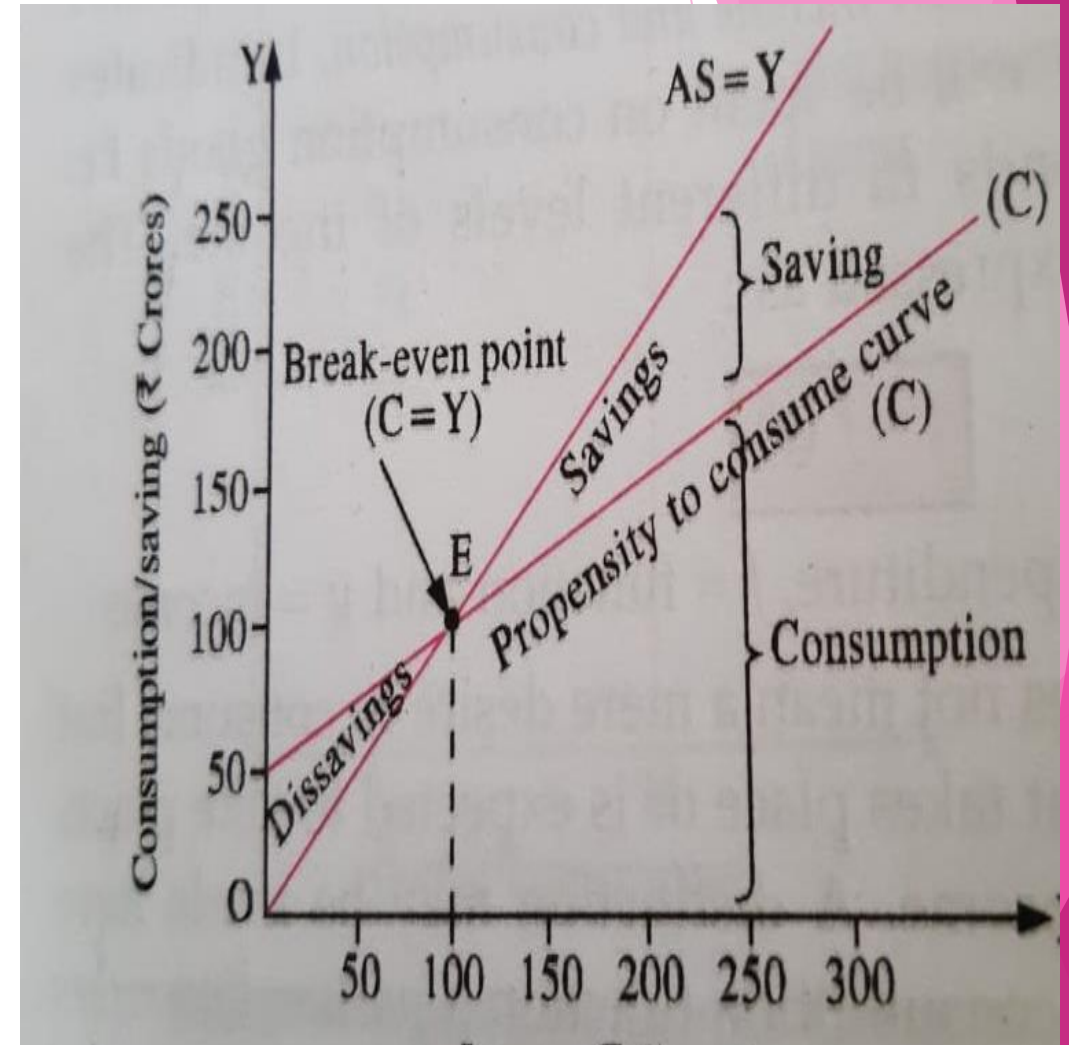
Besides Linear Consumption Function can be expressed as-----

$C = a + by$ where C = consumption

a = Autonomous Consumption

b = Change in Consumption (MPC)

Y = Income



Propensity to consume has two variants-

- ▶ **Average Propensity To Consume**—It is the ratio of consumption expenditure to any given level of income.
 - ▶ $APC = C/Y$
 - ▶ For eg. If at any particular time, the level of income in the economy is Rs.250 and consumption is Rs.175 then
 - ▶ $APC = C/Y = 175/250 = 0.7$ or 70%.
- ▶ **Marginal Propensity To Consume**—It refers to the ratio of change in consumption that takes place due to change in income.
 - ▶ $MPC = \Delta C / \Delta Y$
 - ▶ For Eg. If National Income increases from Rs. 150 crores to Rs. 250 crores and Consumption Expenditure goes up from Rs.100 crores to Rs. 150 crores then $MPC = 150 - 100 / 250 - 150 = 50 / 100 = 0.5$ OR 50%.

Range of the value of APC and MPC.

The value of APC is 0 to 1. However the value of APC can be greater than 1—It is so possible when the level of income is very low and consumption expenditure cannot fall below a minimum level. For Eg. Suppose Income is Rs.100 and the minimum level of consumption is Rs.120 then the value of $APC = 120/100 = 1.2$

The value of MPC IS ALWAYS BETWEEN 0 TO 1. The value of MPC can never be greater than 1, At the most the value of MPC can be equal to 1. MPC is equal to 1 when the entire addition to income is spent on consumption. The value of MPC can also be equal to 0 if the entire addition to on income is saved. Thus the value of MPC varies between zero to one.

The following is the diagrammatic representation of APC and MPC along the consumption curve.

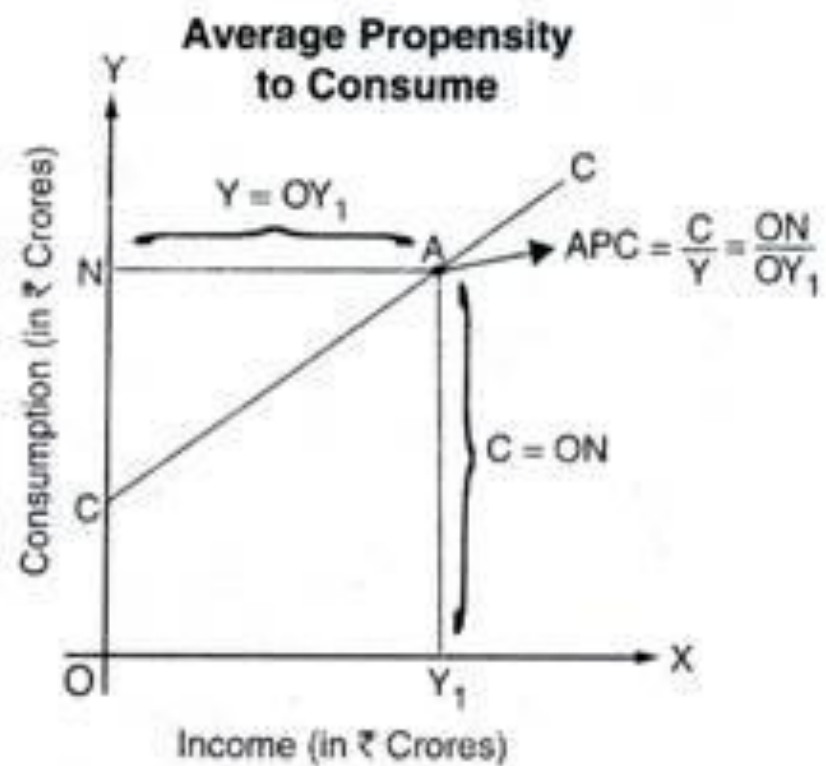


Fig. 7.4

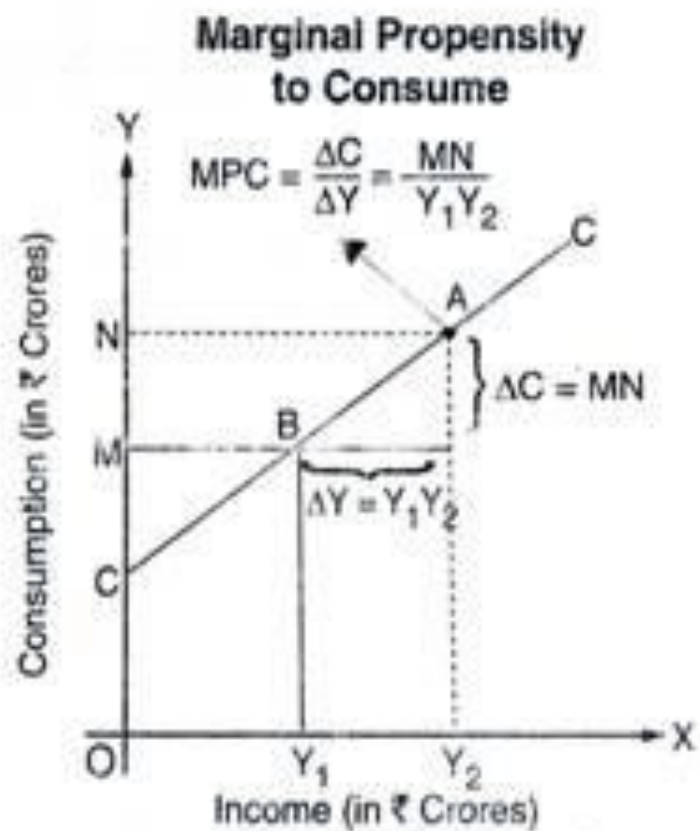


Fig. 7.5