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B.A. Economics

(Third Year)

MACRO ECONOMICS - I

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UNIT - I

INTRODUCTION TO MACRO ECONOMICS

1.1. Introduction

Macroeconomics is the study of the behaviour of the whole economy. It is concerned with the determination of the broad aggregates in the economy, in particular the national output, unemployment, inflation and the balance of payments position. Macro-economic theory applies to a developed, capitalist economy. A capitalist economy is one where productive assets are owned either directly by individuals or by individuals through the medium of firms. These employ others to work with the productive assets in order to produce output. In such an economy, economic decisions are taken by individuals and firms acting independently of one another and coordinated via the market mechanism. All these decisions then interact to determine the values of variables such as output and prices. Economies that are nowadays classified as 'capitalist' all have important state sectors which in various and differing ways intervene in the operation of market forces to redirect or suppress them. The term macro was first used in economics by Ragner Frisch in 1933. But as a methodological approach to economic problems, it originated with the Mercantilists in the 16th and 17th centuries. They were concerned with the economic system as a whole. Walras, Wicksell and Fisher were the modern contributors to the development of macro-economic analysis before Keynes. Keynes developed a general theory of income, output and employment in the wake of the great depression.

1.2. Definition

According to Boulding**,** "Macro economic theory is that part of economics which studies the overall averages and aggregates of the system."

- Shapiro, "Macroeconomics deals with the functioning of the economy as a whole."

- Ackley Gardner deals with the**,** "Macroeconomics concerns with such variables as the aggregate volume of the output of an economy, with the extent to which its resources are employed, with the size of national income and with the general price level"

1.3. Scope and Importance of Macro Economics

As a method of economic analysis macroeconomics is of much theoretical and practical importance.

(1) To Understand the Working of the Economy:

The study of macroeconomic variables is indispensable for understanding the working of the economy. Our main economic problems are related to the behaviour of total income, output, employment and the general price level in the economy. These variables are statistically measurable, thereby facilitating the possibilities of analysing the effects on the functioning of the economy. As Tinbergen observes, macroeconomic concepts help in "making the elimination process understandable and transparent". For instance, one may not agree on the best method of measuring different prices, but the general price level is helpful in understanding the nature of the economy.

(2) In Economic Policies:

Macroeconomics is extremely useful from the point of view of economic policy. Modern governments, especially of the underdeveloped economies, are confronted with innumerable national problems. They are the problems of over population, inflation, balance of payments, general underproduction, etc. The main responsibility of these governments rests in the regulation and control of overpopulation, general prices, general volume of trade, general outputs, etc. Tinbergen says: "Working with macroeconomic concepts is a bare necessity in order to contribute to the solutions of the great problems of our times." No government can solve these problems in terms of individual behaviour. Let us analyse the use of macroeconomic study in the solution of certain complex economic problems.

(i) In General Unemployment:

The Keynesian theory of employment is an exercise in macroeconomics. The general level of employment in an economy depends upon effective demand which in turn depends on aggregate demand and aggregate supply functions. Unemployment is thus caused by deficiency of effective demand. In order to eliminate it, effective demand should be raised by increasing total investment, total output, total income and total consumption. Thus,

macroeconomics has special significance in studying the causes, effects and remedies of general unemployment.

(ii) In National Income:

The study of macroeconomics is very important for evaluating the overall performance of the economy in terms of national income. With the advent of the Great Depression of the 1930s, it became necessary to analyse the causes of general overproduction and general unemployment. This led to the construction of the data on national income. National income data help in forecasting the level of economic activity and to understand the distribution of income among different groups of people in the economy.

(iii) In Economic Growth:

The economics of growth is also a study in macroeconomics. It is on the basis of macroeconomics that the resources and capabilities of an economy are evaluated. Plans for the overall increase in national income, output, and employment are framed and implemented so as to raise the level of economic development of the economy as a whole.

(iv) Monetary Problems:

It is in terms of macroeconomics that monetary problems can be analysed and understood properly. Frequent changes in the value of money, inflation or deflation, affect the economy adversely. They can be counteracted by adopting monetary, fiscal and direct control measures for the economy as a whole.

(v) In Business Cycles:

Further macroeconomics as an approach to economic problems started after the Great Depression. Thus its importance lies in analysing the causes of economic fluctuations and in providing remedies.

(3) For Understanding the Behaviour of Individual Units:

For understanding the behaviour of individual units, the study of macroeconomics is imperative. Demand for individual products depends upon aggregate demand in the economy. Unless the causes of deficiency in aggregate demand are analysed, it is not possible to understand fully the reasons for a fall in the demand of individual products. The reasons for increase in costs of a particular firm or industry cannot be analysed without

knowing the average cost conditions of the whole economy. Thus, the study of individual units is not possible without macroeconomics.

Conclusion:

We may conclude that macroeconomics enriches our knowledge of the functioning of an economy by studying the behaviour of national income, output, investment, saving and consumption. Moreover, it throws much light in solving the problems of unemployment, inflation, economic instability and economic growth.

1.4. Difference between Micro Economics and Macro Economics:

The difference between microeconomics and macroeconomics can be made on the following counts. The word micro has been derived from the Greek word mikros which means small. Microeconomics is the study of economic actions of individuals and small groups of individuals. It includes particular households, particular firms, particular industries, particular commodities and individual prices.

Macroeconomics is also derived from the Greek word makros which means large. It "deals with aggregates of these quantities, not with individual incomes but with the national income, not with individual prices but with the price levels, not with individual output but with the national output." The objective of microeconomics on demand side is to maximize utility whereas on the supply side is to minimize profits at minimum cost. On the other hand, the main objectives of macroeconomics are full employment, price stability, economic growth and favourable balance of payments.

The basis of microeconomics is the price mechanism which operates with the help of demand and supply forces. These forces help to determine the equilibrium price in the market. On the other hand, the basis of macroeconomics is national income, output and employment which are determined by aggregate demand and aggregate supply. Microeconomics is based on different assumptions concerned with rational behaviour of individuals. Moreover the phrase ceteris paribus is used to explain the economic laws. On the other hand, macroeconomics bases its assumptions on such variables as the aggregate volume of output of an economy, with the

extent to which its resources are employed, with the size of the national income and with the general price level.

Microeconomics is based on partial equilibrium analysis which helps to explain the equilibrium conditions of an individual, a firm, an industry and a factor. On the other hand, macroeconomics is based on general equilibrium analysis which is an extensive study of a number of economic variables, their interrelations and interdependences for understanding the working of the economic system as a whole. In microeconomics, the study of equilibrium conditions are analysed at a particular period. But it does not explain the time element. Therefore, microeconomics is considered as a static analysis. On the other hand, macroeconomics is based on time-lags, rates of change, and past and expected values of the variables. This rough division between micro and macroeconomics is not rigid, for the parts affect the whole and the whole affects the parts.

1.5. Limitations of Macro Economics

There are, however, certain limitations of macroeconomic analysis. Mostly, these stem from attempts to yield macroeconomic generalisations from individual experiences.

(1) Fallacy of Composition:

In Macroeconomic analysis the "fallacy of composition" is involved, i.e., aggregate economic behaviour is the sum total of individual activities. But what is true of individuals is not necessarily true of the economy as a whole. For instance, savings are a private virtue but a public vice. If total savings in the economy increase, they may initiate a depression unless they are invested. Again, if an individual depositor withdraws his money from the bank there is no ganger. But if all depositors do this simultaneously, there will be a run on the banks and the banking system will be adversely affected.

(2) To Regard the Aggregates as Homogeneous:

The main defect in macro analysis is that it regards the aggregates as homogeneous without caring about their internal composition and structure. The average wage in a country is the sum total of wages in all occupations, i.e., wages of clerks, typists, teachers, nurses, etc. But the volume of aggregate employment depends on the relative structure of wages rather than on the

average wage. If, for instance, wages of nurse's increase but of typists fall, the average may remain unchanged. But if the employment of nurses falls a little and of typists rises much, aggregate employment would increase.

(3) Aggregate Variables may not be Important Necessarily:

The aggregate variables which form the economic system may not be of much significance. For instance, the national income of a country is the total of all individual incomes. A rise in national income does not mean that individual incomes have risen. The increase in national income might be the result of the increase in the incomes of a few rich people in the country. Thus a rise in the national income of this type has little significance from the point of view of the community. Prof. Boulding calls these three difficulties as "macroeconomic paradoxes" which are true when applied to a single individual but which are untrue when applied to the economic system as a whole.

(4) Indiscriminate Use of Macroeconomics Misleading:

An indiscriminate and uncritical use of macroeconomics in analysing the problems of the real world can often be misleading. For instance, if the policy measures needed to achieve and maintain full employment in the economy are applied to structural unemployment in individual firms and industries, they become irrelevant. Similarly, measures aimed at controlling general prices cannot be applied with much advantage for controlling prices of individual products.

(5) Statistical and Conceptual Difficulties:

The measurement of macroeconomic concepts involves a number of statistical and conceptual difficulties. These problems relate to the aggregation of microeconomic variables. If individual units are almost similar, aggregation does not present much difficulty. But if microeconomic variables relate to dissimilar individual units, their aggregation into one macroeconomic variable may be wrong and dangerous.

1.6. Types of Variables

Stock refers to a quantity of a commodity accumulated at a point of time. The quantity of the current production of a commodity which moves from a factory to the market is called flow. The aggregates of macroeconomics

are of two kinds. Some are stocks, typically the stock of capital K which is a timeless concept. Even in period analysis, a stock must be specified at a particular moment. Other aggregates—the majority—are flows such as income and output, consumption and investment. A flow variable has the time dimension t as much per unit of time or per period. Stock is the quantity of an economic variable relating to a point of time. For example, store of cloth in a shop at a point of time is stock. Flow is the quantity of an economic variable relating to a period of time. The monthly income and expenditure of an individual, receipt of yearly interest rate on various deposits in a bank, sale of a commodity in a month are some examples of flow.

The concepts of stock and flow are used more in the analysis of both micro economics and macroeconomics. Money is a stock whereas the spending of money is a flow. Wealth is a stock and income is a flow. Saving by a person within a month is a flow while the total saving on a day is a stock. The government debt is a stock but the government deficit is a flow. The lending by a bank is a flow and its outstanding loan is a stock. Some macro variables like imports, exports, wages, income, tax payments, social security benefits and dividends are always flows. Such flows do not have direct stocks but they can affect other stocks indirectly, just as imports can affect the stock of capital goods. A stock can change due to flows but the size of flows can be determined itself by changes in stock. This can be explained by the relation between stock of capital and flow of investment. The stock of capital can only increase with the increase in the flow of investment, or by the difference between the flow of production of new capital goods and consumption of capital goods. On the other hand, the flow of investment itself depends upon the size of capital stock. But the stocks can affect flows only if the time period is so long that the desired change in stock can be brought about. Thus, flows cannot be influenced by changes in stock in the short run. Stock and flow variables are very important in modern theories of income, output, employment, interest rate, business cycles, etc.

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UNIT - II

NATIONAL INCOME

2.1. INTRODUCTION

National income is an uncertain term which is used interchangeably with national dividend, national output and national expenditure. National income means total value of goods and services produced annually in a country. In other words, the total amount of income accruing to a country from economic activities in a year time is known as national income. It includes payments made to all resources in the form of wages, interest, rent and profits.

A National Sample Survey has therefore defined national income as "The money measures of the net aggregate of all commodities and services accruing to the inhabitants of community during a specific period." In other words we can say that national income is a money measure or value of net aggregate of goods and services becoming available annually to the nation as a result of the economic activities of the community at large consisting of households or individuals, business firms and social and political institutions. The time is accepted as one year all over the world as it is concerned with the natural and seasonal factors. In one year all the seasons repeat itself. Thus, all the definitions and National Income consider one year. Modern economy is a money economy. Thus, national income of the country is expressed in money terms.

2.2. DEFINITION

The definitions of national income can be grouped into two classes:

- The traditional definitions advanced by Marshall, Pigou and Fisher.
- Modern definition given by Prof. Simon Kuznet.

Marshall Definition:

According to Marshall—"The labour and capital of a country acting on its natural resources produce annually a certain net aggregate of commodities, material and immaterial including services of all kinds. This is the true net annual income or revenue of the country or national dividend." In this definition, the word "net" refers to deductions from the gross national

income in respect of depreciation of capital equipment used in the creation of productive activity. And to this must be added income from abroad.

Prof. Simon Kuznet's Definition:

Prof. Simon Kuznets was an expert advisor to the National Income Estimate Committee of India in 1949. He has the practical experience of estimating National Income in India and U.S.A. His view was that the concept of national income may be simple from theoretical point of view whereas most difficult from the practical point of view. He has defined national income in practical prospective as: "The Net Output of Commodities and Services flowing in a year from the country's productive system in the hands of ultimate consumers or into net addition to the country's capital goods. In practical life, while estimating national income any of these four definitions may be adopted, because the same national income would be derived, if different it's were correctly included in the estimate".

2.3. CONCEPTS OF NATIONAL INCOME

There are a number of concepts pertaining to national income. For instance, Gross National Product, Net National Product, Gross Domestic Product, Net National Income at factor cost, Net Domestic product at factor cost, personal income, disposable income and real income. These concepts are discussed below.

(A). Gross National Product (GNP):

Gross National Product is the total measure of the flow of goods and services at market value resulting from current production during a year in a country, including net income from abroad.

GNP includes four types of final goods and services:

- Consumers' goods and services to satisfy the immediate wants of the people;
- Gross private domestic investment in capital goods consisting of fixed capital formation, residential construction and inventories of finished and unfinished goods;
- Goods and services produced by the government; and

- Net exports of goods and services, i.e., the difference between value of exports and imports of goods and services, known as net income from abroad.

In this concept of GNP, there are certain factors that have to be taken into consideration: First, GNP is the measure of money, in which all kinds of goods and services produced in a country during one year are measured in terms of money at current prices and then added together.

Second, in estimating GNP of the economy, the market price of only the final products should be taken into account. Many of the products pass through a number of stages before they are ultimately purchased by consumers. If those products were counted at every stage, they would be included many a time in the national product. Consequently, the GNP would increase too much. To avoid double counting, therefore, only the final products and not the intermediary goods should be taken into account.

Third, goods and services rendered free of charge are not included in the GNP, because it is not possible to have a correct estimate of their market price. For example, the bringing up of a child by the mother, imparting instructions to his son by a teacher, recitals to his friends by a musician, etc.

Fourth, the transactions which do not arise from the produce of current year or which do not contribute in any way to production are not included in the GNP. The sale and purchase of old goods, and of shares, bonds and assets of existing companies are not included in GNP because these do not make any addition to the national product, and the goods are simply transferred.

Fifth, the payments received under social security, e.g., unemployment insurance allowance, old age pension, and interest on public loans are also not included in GNP, because the recipients do not provide any service in lieu of them. But the depreciation of machines, plants and other capital goods is not deducted from GNP.

Sixth, the profits earned or losses incurred on account of changes in capital assets as a result of fluctuations in market prices are not included in the GNP if they are not responsible for current production or economic activity.

For example, if the price of a house or a piece of land increases due to inflation, the profit earned by selling it will not be a part of GNP. But if, during the current year, a portion of a house is constructed anew, the increase in the value of the house (after subtracting the cost of the newly constructed portion) will be included in the GNP. Similarly, variations in the value of assets, that can be ascertained beforehand and are insured against flood or fire, are not included in the GNP.

Last, the income earned through illegal activities is not included in the Gross National Product. Although the goods sold in the black market are priced and fulfil the needs of the people, but as they are not useful from the social point of view, the income received from their sale and purchase is always excluded from the Gross National Product. There are two main reasons for this. One, it is not known whether these things were produced during the current year or the preceding years. Two, many of these goods are foreign made and smuggled and hence not included in the GNP.

Three Approaches to GNP:

After having studied the fundamental constituents of GNP, it is essential to know how it is estimated. Three approaches are employed for this purpose. One, the income method to GNP; two, the expenditure method to GNP and three, the value added method to GNP. Since gross income equals gross expenditure, GNP estimated by all these methods would be the same with appropriate adjustments.

1. Income Method to GNP:

The income method to gross national product consists of the remuneration paid in terms of money to the factors of production annually in a country. Thus Gross National Product is the sum total of the following items:

(i) Wages and salaries:

Under this head are included all forms of wages and salaries earned through productive activities by workers and entrepreneurs. It includes all sums received or deposited during a year by way of all types of contributions like overtime, commission, provident fund, insurance, etc.

(ii) Rents:

Total rent includes the rents of land, shop, house, factory, etc. and the estimated rents of all such assets as are used by the owners themselves.

(iii) Interest:

Under interest comes the income by way of interest received by the individual of a country from different sources. To this is added, the estimated interest on that private capital which is invested and not borrowed by the businessman in his personal business. But the interest received on governmental loans has to be excluded, because it is a mere transfer of national income.

(iv) Dividends:

Dividends earned by the shareholders from companies are included in the GNP.

(v) Undistributed corporate profits:

Profits which are not distributed by companies and are retained by them are included in the GNP.

(vi) Mixed incomes:

These include profits of unincorporated business, self-employed persons and partnerships. They form part of GNP.

(vii) Direct taxes:

Taxes levied on individuals, corporations and other businesses are included in the GNP.

(viii) Indirect taxes:

The government levies a number of indirect taxes, like excise duties and sales tax. These taxes are included in the price of commodities. But revenue from these goes to the government treasury and not to the factors of production. Therefore, the income due to such taxes is added to the GNP.

(ix) Depreciation:

Every corporation makes allowance for expenditure on wearing out and depreciation of machines, plants and other capital equipment. Since this sum also is not a part of the income received by the factors of production, it is, therefore, also included in the GNP.

(x) Net income earned from abroad:

This is the difference between the value of exports of goods and services and the value of imports of goods and services. If this difference is positive, it is added to the GNP and if it is negative, it is deducted from the GNP. Thus GNP according to the Income Method = Wages and Salaries + Rents +Interest + Dividends + Undistributed Corporate Profits + Mixed Income + Direct Taxes + Indirect Taxes + Depreciation + Net Income from abroad.

2. Expenditure Method to GNP:

From the expenditure view point, GNP is the sum total of expenditure incurred on goods and services during one year in a country. It includes the following items:

(i) Private consumption expenditure:

It includes all types of expenditure on personal consumption by the individuals of a country. It comprises expenses on durable goods like watch, bicycle, radio, etc., expenditure on single-used consumers' goods like milk, bread, ghee, clothes, etc., as also the expenditure incurred on services of all kinds like fees for school, doctor, lawyer and transport. All these are taken as final goods.

(ii) Gross domestic private investment:

Under this comes the expenditure incurred by private enterprise on new investment and on replacement of old capital. It includes expenditure on house construction, factory- buildings, and all types of machinery, plants and capital equipment. In particular, the increase or decrease in inventory is added to or subtracted from it. The inventory includes produced but unsold manufactured and semi-manufactured goods during the year and the stocks of raw materials, which have to be accounted for in GNP. It does not take into account the financial exchange of shares and stocks because their sale and purchase is not real investment. But depreciation is added.

(iii) Net foreign investment:

It means the difference between exports and imports or export surplus. Every country exports to or imports from certain foreign countries. The imported goods are not produced within the country and hence cannot be included in national income, but the exported goods are manufactured within

the country. Therefore, the difference of value between exports (X) and imports (M), whether positive or negative, is included in the GNP.

(iv) Government expenditure on goods and services:

The expenditure incurred by the government on goods and services is a part of the GNP. Central, state or local governments spend a lot on their employees, police and army. To run the offices, the governments have also to spend on contingencies which include paper, pen, pencil and various types of stationery, cloth, furniture, cars, etc. It also includes the expenditure on government enterprises. But expenditure on transfer payments is not added, because these payments are not made in exchange for goods and services produced during the current year.

Thus GNP according to the Expenditure Method=Private Consumption Expenditure (C) + Gross Domestic Private Investment (I) + Net Foreign Investment (X-M) + Government Expenditure on Goods and Services (G) = C+ I + (X-M) + G. As already pointed out above, GNP estimated by either the income or the expenditure method would work out to be the same, if all the items are correctly calculated.

3. Value Added Method to GNP:

Another method of measuring GNP is by value added. In calculating GNP, the money value of final goods and services produced at current prices during a year is taken into account. This is one of the ways to avoid double counting. But it is difficult to distinguish properly between a final product and an intermediate product.

For instance, raw materials, semi-finished products, fuels and services, etc. are sold as inputs by one industry to the other. They may be final goods for one industry and intermediate for others. So, to avoid duplication, the value of intermediate products used in manufacturing final products must be subtracted from the value of total output of each industry in the economy.

Thus, the difference between the value of material outputs and inputs at each stage of production is called the value added. If all such differences are added up for all industries in the economy, we arrive at the GNP by value added. GNP by value added = Gross value added + net income from abroad. Its calculation is shown in Tables 2.1, 2.2 and 2.3.

Table 2.1 is constructed on the supposition that the entire economy for purposes of total production consists of three sectors. They are agriculture, manufacturing, and others, consisting of the tertiary sector. Out of the value of total output of each sector is deducted the value of its intermediate purchases (or primary inputs) to arrive at the value added for the entire economy. Thus the value of total output of the entire economy as per Table 2.1, is Rs. 155 crores and the value of its primary inputs comes to Rs. 80 crores. Thus the GDP by value added is Rs. 75 crores (Rs. 155 minus Rs. 80 crores).

Table 2.1. GDP by value added

(Rs. crores)

Industry	Total Output	Intermediate Purchases	Value Added
(1)	(2)	(3)	(4)=(2-3)
1. Agriculture	30	10	20
2. Manufacturing	70	45	25
3. Others	55	25	30
Total	155	80	75

The total value added equals the value of gross domestic product of the economy. Out of this value added, the major portion goes in the form wages and salaries, rent, interest and profits, a small portion goes to the government as indirect taxes and the remaining amount is meant for depreciation. This is shown in Table 2.3.

Thus we find that the total gross value added of an economy equals the value of its gross domestic product. If depreciation is deducted from the gross value added, we have net value added which comes to Rs. 67 crores (Rs. 75 minus Rs. 8 crores). This is nothing but net domestic product at market prices. Again, if indirect taxes (Rs. 7 crores) are deducted from the net domestic product of Rs. 67 crores, we get Rs. 60 crores as the net value added at factor cost which is equivalent to net domestic product at factor cost. This is illustrated in Table 2.2.

Table 2.2

Value Added at Factor Cost

		(Rs. Crores)
1.	Market Value of output	155
2.	*Less:* cost of intermediate Goods	80
3.	Gross value added	75
4.	*Less*: depreciation	8
5.	Net value added or domestic product at market prices	67
6.	*Less*: indirect taxes	7
7.	Net value added at factor cost	60

Net value added at factor cost is equal to the net domestic product at factor cost, as given by the total of items 1 to 4 of Table 2.2 (Rs. 45+3+4+8 crores=Rs. 60 crores). By adding indirect taxes (Rs 7 crores) and depreciation (Rs 8 crores), we get gross value added or GDP which comes to Rs 75 crores. If we add net income received from abroad to the gross value added, this gives -us, gross national income. Suppose net income from abroad is Rs. 5 crores. Then the gross national income is Rs. 80 crores (Rs. 75 crores + Rs. 5 crores) as shown in Table 2.3.

Table 2.3: Gross Domestic Product

		(Rs Crores)
1.	Wages and salaries	45
2.	Income from rent	3
3.	Net interest	4
4.	Profits of companies	8
	Net Value Added or NDP	60
5.	Indirect taxes	+ 7
6.	Depreciation	+ 8
	Gross Value Added or GDP	75
7.	Net income from abroad	+ 5
Gross National Income		80

However, difficulties arise in the calculation of value added in the case of certain public services like police, military, health, education, etc. which cannot be estimated accurately in money terms. Similarly, it is difficult to estimate the contribution made to value added by profits earned on irrigation and power projects.

(B) Gross National Product at Market Prices:

When we multiply the total output produced in one year by their market prices prevalent during that year in a country, we get the Gross National Product at market prices. Thus GNP at market prices means the gross value

of final goods and services produced annually in a country plus net income from abroad. It includes the gross value of output of all items from (1) to (4) mentioned under GNP. GNP at Market Prices = GDP at Market Prices + Net Income from Abroad.

(C) Gross National Product at Factor Cost:

Gross National Product at factor cost is the sum of the money value of the income produced by and accruing to the various factors of production in one year in a country. It includes all items mentioned above under income method to GNP less indirect taxes. GNP at market prices always includes indirect taxes levied by the government on goods which raise their prices. But GNP at factor cost is the income which the factors of production receive in return for their services alone. It is the cost of production.

Thus GNP at market prices is always higher than GNP at factor cost. Therefore, in order to arrive at GNP at factor cost, we deduct indirect taxes from GNP at market prices. Again, it often happens that the cost of production of a commodity to the producer is higher than a price of a similar commodity in the market. In order to protect such producers, the government helps them by granting monetary help in the form of a subsidy equal to the difference between the market price and the cost of production of the commodity. As a result, the price of the commodity to the producer is reduced and equals the market price of similar commodity.

For example if the market price of rice is Rs. 3 per kg but it costs the producers in certain areas Rs. 3.50. The government gives a subsidy of 50 paisa per kg to them in order to meet their cost of production. Thus in order to arrive at GNP at factor cost, subsidies are added to GNP at market prices.

GNP at Factor Cost = GNP at Market Prices – Indirect Taxes + Subsidies.

(D) Net National Product (NNP):

NNP includes the value of total output of consumption goods and investment goods. But the process of production uses up a certain amount of fixed capital. Some fixed equipment wears out, its other components are damaged or destroyed, and still others are rendered obsolete through technological changes.

All this process is termed depreciation or capital consumption allowance. In order to arrive at NNP, we deduct depreciation from GNP. The word 'net' refers to the exclusion of that part of total output which represents depreciation. So NNP = GNP—Depreciation.

(E) NNP at Market Prices:

Net National Product at market prices is the net value of final goods and services evaluated at market prices in the course of one year in a country. If we deduct depreciation from GNP at market prices, we get NNP at market prices. So NNP at Market Prices = GNP at Market Prices—Depreciation.

(F) NNP at Factor Cost:

Net National Product at factor cost is the net output evaluated at factor prices. It includes income earned by factors of production through participation in the production process such as wages and salaries, rents, profits, etc. It is also called National Income. This measure differs from NNP at market prices in that indirect taxes are deducted and subsidies are added to NNP at market prices in order to arrive at NNP at factor cost. Thus

NNP at Factor Cost = NNP at Market Prices – Indirect taxes+ Subsidies.

= GNP at Market Prices – Depreciation – Indirect taxes + Subsidies.

= National Income.

Normally, NNP at market prices is higher than NNP at factor cost because indirect taxes exceed government subsidies. However, NNP at market prices can be less than NNP at factor cost when government subsidies exceed indirect taxes.

(G) Domestic Income:

Income generated (or earned) by factors of production within the country from its own resources is called domestic income or domestic product. Domestic income includes:

(i) Wages and salaries, (ii) rents, including imputed house rents, (iii) interest, (iv) dividends, (v) undistributed corporate profits, including surpluses of public undertakings, (vi) mixed incomes consisting of profits of unincorporated firms, self- employed persons, partnerships, etc., and (vii) direct taxes.

Since domestic income does not include income earned from abroad, it can also be shown as: Domestic Income = National Income-Net income earned from abroad. Thus the difference between domestic income f and national income is the net income earned from abroad. If we add net income from abroad to domestic income, we get national income, i.e., National Income = Domestic Income + Net income earned from abroad.

But the net national income earned from abroad may be positive or negative. If exports exceed import, net income earned from abroad is positive. In this case, national income is greater than domestic income. On the other hand, when imports exceed exports, net income earned from abroad is negative and domestic income is greater than national income.

(H) Private Income:

Private income is income obtained by private individuals from any source, productive or otherwise, and the retained income of corporations. It can be arrived at from NNP at Factor Cost by making certain additions and deductions. The additions include transfer payments such as pensions, unemployment allowances, and sickness and other social security benefits, gifts and remittances from abroad, windfall gains from lotteries or from horse racing, and interest on public debt. The deductions include income from government departments as well as surpluses from public undertakings, and employees' contribution to social security schemes like provident funds, life insurance, etc.

Thus Private Income = National Income (or NNP at Factor Cost) + Transfer Payments + Interest on Public Debt — Social Security — Profits and Surpluses of Public Undertakings.

(I) Personal Income:

Personal income is the total income received by the individuals of a country from all sources before payment of direct taxes in one year. Personal income is never equal to the national income, because the former includes the transfer payments whereas they are not included in national income. Personal income is derived from national income by deducting undistributed corporate profits, profit taxes, and employees' contributions to social security schemes. These three components are excluded from national income because they do

reach individuals. But business and government transfer payments, and transfer payments from abroad in the form of gifts and remittances, windfall gains, and interest on public debt which are a source of income for individuals are added to national income. Thus Personal Income = National Income – Undistributed Corporate Profits – Profit Taxes – Social Security Contribution + Transfer Payments + Interest on Public Debt.

Personal income differs from private income in that it is less than the latter because it excludes undistributed corporate profits.

Thus Personal Income = Private Income – Undistributed Corporate Profits – Profit Taxes.

(J) Disposable Income:

Disposable income or personal disposable income means the actual income which can be spent on consumption by individuals and families. The whole of the personal income cannot be spent on consumption, because it is the income that accrues before direct taxes have actually been paid. Therefore, in order to obtain disposable income, direct taxes are deducted from personal income. Thus Disposable Income=Personal Income – Direct Taxes. But the whole of disposable income is not spent on consumption and a part of it is saved. Therefore, disposable income is divided into consumption expenditure and savings. Thus Disposable Income = Consumption Expenditure + Savings.

If disposable income is to be deduced from national income, we deduct indirect taxes plus subsidies, direct taxes on personal and on business, social security payments, undistributed corporate profits or business savings from it and add transfer payments and net income from abroad to it.

Thus Disposable Income = National Income – Business Savings – Indirect Taxes + Subsidies – Direct Taxes on Persons – Direct Taxes on Business – Social Security Payments + Transfer Payments + Net Income from abroad.

(K) Real Income:

Real income is national income expressed in terms of a general level of prices of a particular year taken as base. National income is the value of goods and services produced as expressed in terms of money at current prices. But it does not indicate the real state of the economy.

It is possible that the net national product of goods and services this year might have been less than that of the last year, but owing to an increase in prices, net national product might be higher this year. On the contrary, it is also possible that net national product might have increased but the price level might have fallen, as a result national income would appear to be less than that of the last year. In both the situations, the national income does not depict the real state of the country. To rectify such a mistake, the concept of real income has been evolved.

In order to find out the real income of a country, a particular year is taken as the base year when the general price level is neither too high nor too low and the price level for that year is assumed to be 100. Now the general level of prices of the given year for which the national income (real) is to be determined is assessed in accordance with the prices of the base year. For this purpose the following formula is employed. This is also known as national income at constant prices.

Real NNP = NNP for the Current Year x Base Year Index (=100) / Current Year Index.

(L) Per Capita Income:

The average income of the people of a country in a particular year is called Per Capita Income for that year. This concept also refers to the measurement of income at current prices and at constant prices. For instance, in order to find out the per capita income for 2001, at current prices, the national income of a country is divided by the population of the country in that year.

$$\text{Per capita Income} = \textit{National Income} / \textit{Population}$$

Similarly, for the purpose of arriving at the Real Per Capita Income, this very formula is used. This concept enables us to know the average income and the standard of living of the people. But it is not very reliable, because in every country due to unequal distribution of national income, a major portion of it goes to the richer sections of the society and thus income received by the common man is lower than the per capita income.

(M) Gross Domestic Product (GDP):

Gross Domestic Product is the total value of goods and services produced within the country during a year. This is calculated at market prices and is known as GDP at market prices. Dernberg defines GDP at market price as "the market value of the output of final goods and services produced in the domestic territory of a country during an accounting year." There are three different ways to measure GDP:

Product Method, Income Method and Expenditure Method.

These three methods of calculating GDP yield the same result because National Product = National Income = National Expenditure.

1. The Product Method:

In this method, the value of all goods and services produced in different industries during the year is added up. This is also known as the value added method to GDP or GDP at factor cost by industry of origin. The following items are included in India in this: agriculture and allied services; mining; manufacturing, construction, electricity, gas and water supply; transport, communication and trade; banking and insurance, real estates and ownership of dwellings and business services; and public administration and defence and other services (or government services). In other words, it is the sum of gross value added.

2. The Income Method:

The people of a country who produce GDP during a year receive incomes from their work. Thus GDP by income method is the sum of all factor incomes: Wages and Salaries (compensation of employees) + Rent + Interest + Profit.

3. Expenditure Method:

This method focuses on goods and services produced within the country during one year. GDP by expenditure method includes:

- Consumer expenditure on services and durable and non-durable goods (C),
- Investment in fixed capital such as residential and non-residential building, machinery, and inventories (I),
- Government expenditure on final goods and services (G),
- Export of goods and services produced by the people of country (X),

- Less imports (M). That part of consumption, investment and government expenditure which is spent on imports is subtracted from GDP. Similarly, any imported component, such as raw materials, which is used in the manufacture of export goods, is also excluded.

Thus GDP by expenditure method at market prices = C+ I + G + (X – M), where (X-M) is net export which can be positive or negative.

2.4. Methods of Measuring National Income

There are four methods of measuring national income. Which method is to be used depends on the availability of data in a country and the purpose in hand.

(1) Product Method:

According to this method, the total value of final goods and services produced in a country during a year is calculated at market prices. To find out the GNP, the data of all productive activities, such as agricultural products, wood received from forests, minerals received from mines, commodities produced by industries, the contributions to production made by transport, communications, insurance companies, lawyers, doctors, teachers, etc. are collected and assessed at market prices. Only the final goods and services are included and the intermediary goods and services are left out.

(2) Income Method:

According to this method, the net income payments received by all citizens of a country in a particular year are added up, i.e., net incomes that accrue to all factors of production by way of net rents, net wages, net interest and net profits are all added together but incomes received in the form of transfer payments are not included in it. The data pertaining to income are obtained from different sources, for instance, from income tax department in respect of high income groups and in case of workers from their wage bills.

(3) Expenditure Method:

According to this method, the total expenditure incurred by the society in a particular year is added together and includes personal consumption expenditure, net domestic investment, government expenditure on goods and

services, and net foreign investment. This concept is based on the assumption that national income equals national expenditure.

(4) Value Added Method:

Another method of measuring national income is the value added by industries. The difference between the value of material outputs and inputs at each stage of production is the value added. If all such differences are added up for all industries in the economy, we arrive at the gross domestic product.

2.5. Difficulties in the Measurement of National Income

There are many conceptual and statistical problems involved in measuring national income by the income method, product method, and expenditure method. We discuss them separately in the light of the three methods:

(A) Problems in Income Method:

The following problems arise in the computation of National Income by income method:

1. Owner-occupied Houses:

A person who rents a house to another earns rental income, but if he occupies the house himself, will the services of the house-owner be included in national income. The services of the owner-occupied house are included in national income as if the owner sells to himself as a tenant its services. For the purpose of national income accounts, the amount of imputed rent is estimated as the sum for which the owner-occupied house could have been rented. The imputed net rent is calculated as that portion of the amount that would have accrued to the house-owner after deducting all expenses.

2. Self-employed Persons:

Another problem arises with regard to the income of self-employed persons. In their case, it is very difficult to find out the different inputs provided by the owner himself. He might be contributing his capital, land, labour and his abilities in the business. But it is not possible to estimate the value of each factor input to production. So he gets a mixed income consisting of interest, rent, wage and profits for his factor services. This is included in national income.

3. Goods meant for Self-consumption:

In under-developed countries like India, farmers keep a large portion of food and other goods produced on the farm for self-consumption. The problem is whether that part of the produce which is not sold in the market can be included in national income or not. If the farmer were to sell his entire produce in the market, he will have to buy what he needs for self-consumption out of his money income. If, instead he keeps some produce for his self-consumption, it has money value which must be included in national income.

4. Wages and Salaries paid in Kind:

Another problem arises with regard to wages and salaries paid in kind to the employees in the form of free food, lodging, dress and other amenities. Payments in kind by employers are included in national income. This is because the employees would have received money income equal to the value of free food, lodging, etc. from the employer and spent the same in paying for food, lodging, etc.

(B) Problems in Product Method:

The following problems arise in the computation of national income by product method:

1. Intermediate and Final Goods:

The greatest difficulty in estimating national income by product method is the failure to distinguish properly between intermediate and final goods. There is always the possibility of including a good or service more than once, whereas only final goods are included in national income estimates. This leads to the problem of double counting which leads to the overestimation of national income.

2. Second-Hand Goods and Assets:

Another problem arises with regard to the sale and purchase of second-hand goods and assets. We find that old scooters, cars, houses, machinery, etc. are transacted daily in the country. But they are not included in national income because they were counted in the national product in the year they were manufactured. If they are included every time they are bought and sold, national income would increase many times. Similarly, the sale and purchase of old stocks, shares, and bonds of companies are not included in national

income because they were included in national income when the companies were started for the first time. Now they are simply financial transactions and represent claims. But the commission or fees charged by the brokers in the repurchase and resale of old shares, bonds, houses, cars or scooters, etc. are included in national income. For these are the payments they receive for their productive services during the year.

3. Illegal Activities:

Income earned through illegal activities like gambling, smuggling, illicit extraction of wine, etc. is not included in national income. Such activities have value and satisfy the wants of the people but they are not considered productive from the point of view of society. But in countries like Nepal and Monaco where gambling is legalised, it is included in national income. Similarly, horse-racing is a legal activity in England and is included in national income.

4. Consumers' Service:

There are a number of persons in society who render services to consumers but they do not produce anything tangible. They are the actors, dancers, doctors, singers, teachers, musicians, lawyers, barbers, etc. The problem arises about the inclusion of their services in national income since they do not produce tangible commodities. But as they satisfy human wants and receive payments for their services, their services are included as final goods in estimating national income.

5. Capital Gains:

The problem also arises with regard to capital gains. Capital gains arise when a capital asset such as a house, some other property, stocks or shares, etc. is sold at higher price than was paid for it at the time of purchase. Capital gains are excluded from national income because these do not arise from current economic activities. Similarly, capital losses are not taken into account while estimating national income.

6. Inventory Changes:

All inventory changes (or changes in stocks) whether positive or negative are included in national income. The procedure is to take changes in physical units of inventories for the year valued at average current prices paid

for them. The value of changes in inventories may be positive or negative which is added or subtracted from the current production of the firm. Remember, it is the change in inventories and not total inventories for the year that are taken into account in national income estimates.

7. Depreciation:

Depreciation is deducted from GNP in order to arrive at NNP. Thus depreciation lowers the national income. But the problem is of estimating the current depreciated value of, say, a machine, whose expected life is supposed to be thirty years. Firms calculate the depreciation value on the original cost of machines for their expected life. This does not solve the problem because the prices of machines change almost every year.

8. Price Changes:

National income by product method is measured by the value of final goods and services at current market prices. But prices do not remain stable. They rise or fall. When the price level rises, the national income also rises, though the national production might have fallen. On the contrary, with the fall in the price level, the national income also falls, though the national production might have increased. So price changes do not adequately measure national income. To solve this problem, economists calculate the real national income at a constant price level by the consumer price index.

(C) Problems in Expenditure Method:

The following problems arise in the calculation of national income by expenditure method:

(1) Government Services:

In calculating national income by, expenditure method, the problem of estimating government services arises. Government provides a number of services, such as police and military services, administrative and legal services. Should expenditure on government services be included in national income? If they are final goods, then only they would be included in national income. On the other hand, if they are used as intermediate goods, meant for further production, they would not be included in national income. There are many divergent views on this issue.

One view is that if police, military, legal and administrative services protect the lives, property and liberty of the people, they are treated as final goods and hence form part of national income. If they help in the smooth functioning of the production process by maintaining peace and security, then they are like intermediate goods that do not enter into national income. In reality, it is not possible to make a clear demarcation as to which service protects the people and which protects the productive process. Therefore, all such services are regarded as final goods and are included in national income.

(2) Transfer Payments:

There arises the problem of including transfer payments in national income. Government makes payments in the form of pensions, unemployment allowance, subsidies, interest on national debt, etc. These are government expenditures but they are not included in national income because they are paid without adding anything to the production process during the current year. For instance, pensions and unemployment allowances are paid to individuals by the government without doing any productive work during the year. Subsidies tend to lower the market price of the commodities. Interest on national or public debt is also considered a transfer payment because it is paid by the government to individuals and firms on their past savings without any productive work.

(3) Durable-use Consumers' Goods:

Durable-use consumers' goods also pose a problem. Such durable-use consumers' goods as scooters, cars, fans, TVs, furniture's, etc. are bought in one year but they are used for a number of years. Should they be included under investment expenditure or consumption expenditure in national income estimates? The expenditure on them is regarded as final consumption expenditure because it is not possible to measure their used up value for the subsequent years. But there is one exception. The expenditure on a new house is regarded as investment expenditure and not consumption expenditure. This is because the rental income or the imputed rent which the house-owner gets is for making investment on the new house. However, expenditure on a car by a household is consumption expenditure. But if he spends the amount for using it as a taxi, it is investment expenditure.

(4) Public Expenditure:

Government spends on police, military, administrative and legal services, parks, street lighting, irrigation, museums, education, public health, roads, canals, buildings, etc. The problem is to find out which expenditure is consumption expenditure and which investment expenditure is. Expenses on education, museums, public health, police, parks, street lighting, civil and judicial administration are consumption expenditure. Expenses on roads, canals, buildings, etc. are investment expenditure. But expenses on defence equipment are treated as consumption expenditure because they are consumed during a war as they are destroyed or become obsolete. However, all such expenses including the salaries of armed personnel are included in national income.

2.6. Uses of National Income analysis

The following points highlight the top seven importance of national income analysis. The importance are: 1. For the Economy 2. National Policies 3. Economic Planning 4. Economic Models 5. For Research 6. Per-Capita Income 7. Distribution of Income.

1. Importance for the Economy:

National income data are of great importance for the economy of a country. These days the national income data are regarded as accounts of the economy, which are known as social accounts. These refer to net national income and net national expenditure, which ultimately equal each other Social accounts tell us how the aggregates of a nation's income, output and product result from the income of different individuals, products of industries and transactions of international trade. Their main constituents are inter-related and each particular account can be used to verify the correctness of any other account Based very much on social accounts, the national income data have the following importance.

2. National Policies

National income data form the basis of national policies such as employment policy because these figures enable us to know the direction in which the industrial output, investment and savings' etc. change, and proper measures can be adopted to bring the economy to the right path.

3. Economic Planning

In the present age of planning, the national data are of great importance. For economic planning, it is essential that the data pertaining to a country's gross income, output, saving and consumption from different sources should be available. Without these, planning is not possible. Similarly, the economists propound short-run as well long-run economic models or long-run investment models in which the national income data are very widely used.

4. Economic Models

Economists build short-run and long-run economic models in which the national income data are widely used.

5. Importance for Research:

The national income data are also made use of by the research scholars of economics, they make use of the various data of the country's input, output, income, saving, consumption, investment employment, etc., which are obtained from social accounts.

6. Per-Capita Income:

National income data are significant for a country's per capita income which reflects the economic welfare of the country. The higher the per capita income, the higher the economic welfare and vice versa.

7. Distribution of Income:

National income statistics enable us to know about the distribution of income in the country. From the data pertaining to wages, rent, interest and profits we learn of the disparities in the incomes of different sections of the society. Similarly, the regional distribution of income is revealed it is only on the basis of these that the government can adopt measures to remove the inequalities in income distribution and to restore regional equilibrium. With a view to removing these personal and regional disequilibria, the decisions to levy more taxes and increase public expenditure also rest on national income statistics.

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UNIT - III

CLASSICAL THEORY OF EMPLOYMENT

3.1. INTRODUCTION

John Maynard Keynes in his General Theory of Employment, Interest and Money published in 1936, made a frontal attack on the classical postulates. He developed a new economics which brought about a revolution in economic thought and policy. The general theory was written against the background of classical thought. They included in particular, J.S. Mill, Marshall and Pigou. Keynes repudiated traditional and orthodox economics which had been built up over a century and which dominated economic thought and policy before and during the great depression. Since the Keynesian Economics is based on the criticism of classical economics, it is necessary to know the latter as embodied in the theory of employment.

3.2. MEANING OF FULL EMPLOYMENT

Full employment refers to a situation in which people who are willing to work at existing wages are able to get jobs readily and quickly move from one job to another if he so wishes. According to Keynes, a situation of full employment is said to exist of there is no involuntary unemployment. In a broad sense it refers to the full utilisation of all available labour (and other resources) so that the economy is able to produce its potential output (GNP). Full employment is on me of the major objectives of macroeconomic policy. However, the term 'full employment' does not taken to mean a situation where everyone wanting to work and able to work is constantly employed. There are two reasons for this:

- First, labour is not perfectly mobile,
- Secondly, in a dynamic world characterised by changes in tastes and preference of buyers there will always be some people temporarily unemployed until they are in the process of moving from one job to another.

3.3. UNEMPLOYMENT

Unemployment which arises due to immobility of labour rather than fall in the demand for labour is known as frictional or transitional unemployment. Such unemployment is experienced when workers are

changing jobs and are unemployed for a short period between jobs. Often people do not cease work because they get another job immediately. The period of time between jobs, be it a few days or a few months, is seasonal unemployment of a 'frictional nature'. This type of unemployment is observed in those industries which experience marked seasonal patterns of demand such as farming, brick-laying, tourism, etc. This type of unemployment arises because the markets do not operate smoothly. Frictional employment is only temporary and is normally ignored while defining full employment (or estimating full employment equilibrium). The economy is said to be at full employment when only frictional unemployment exists.

This means that everyone who wishes to work at the going wage-rate for his type of labour is employed, but since it takes time to switch from one job to another there will at any moment be an amount of unemployment. Thus the full employment level of GDP measures full capacity output, i.e., the maximum possible output the economy is capable of producing by employing all resources to their feasible limits. Unemployment other than those described above is due to deficiency of demand or purchasing power. Such unemployment is known as cyclical unemployment (because it is associated with the trade cycle). It is this type of unemployment with which Keynes was primarily concerned. He believed that this types of unemployment would be eradicated by adopting demand management (i.e., monetary and fiscal) policies. So full employment does not mean zero employment. It refers to a situation in which there is only cyclical unemployment. In other words, a more realistic definition of full employment goes as follows: Full employment is achieved when the number of registered unemployment is achieved when the number of registered unemployment is equal to the number of job vacancies. However, even this measure is not quite accurate since many people like housewives and older workers may fail to register as unemployed when job prospects are bleak even though they wish to work.

For in macroeconomic purposes, however, most governments usually tend to define full employment in terms of some politically acceptable ort

targeted level of unemployment (for example, 4% of the labour force), though the exact target level is rarely perfectly disclosed. Moreover, this level varies according to prevailing conditions. Moreover, it is sometimes apprehended that a rise in labour productivity will lead to a fall in the demand for labour. In such a situation full employment can only be maintained by increasing aggregate demand at the same rate as labour productivity.

3.3.1. TYPES OF UNEMPLOYMENT

India's current unemployment issue is primarily structural. Some of the main types of unemployment in our nation are as follows:

1. Disguised Unemployment

Disguised Unemployment is a situation where the number of workers engaged in work is more than actually required. Another name for disguised Unemployment is hidden Unemployment. For instance, if five people are working on the same task but only two workers are required for the job, then three people are disguised unemployed. It is the most common type of unemployment in the agricultural sector of developing nations like India. The primary cause of hidden unemployment is that everyone appears to be working, but the marginal productivity of the excess labour is zero, which implies that the additional workforce's contribution is zero.

Causes of Disguised Unemployment:

- People are forced to work on family farms because there are no alternatives to agriculture, which results in hidden unemployment.
- The probability of hidden unemployment is further increased by small land holdings and family size growth.
- People who live in joint families continue to work on the family farm, which contributes to disguised unemployment.

2. Seasonal Unemployment:

Seasonal Unemployment is the type of unemployment that occurs at certain seasons of the year. In India, seasonal unemployment is predominately related to agriculture. In agriculture, work is seasonal, and the farmers do not have work to do on the farms for all months of the year. Therefore, when there is no work for men to do on farms, they go to urban

areas and look for jobs. The moment the rainy season starts, they return to their villages. Depending on farming practices, soil quality, crop types, yields, etc., the period of seasonal unemployment differs from state to state.

3. Open Unemployment:

The economic phenomenon in which people are able and willing to work at the existing wage rate but fail to get work is known as Open Unemployment. Open unemployment is so-called because it is seen and counted in terms of the number of unemployed persons.

Open Unemployment is different from Disguised Unemployment:

In open employment, workers who are unemployed are completely idle. In contrast, when someone appears to be working and do not seem to be wasting their time, it is known as disguised unemployment.

Unemployment is Temporary even in India:

As there is a desperate economic condition in India, the people living here cannot remain completely unemployed for very long. Because of this, these people forcefully accept unpleasant, and/or dangerous jobs in unhealthy surroundings.

3.3.2. CAUSES OF UNEMPLOYMENT IN INDIA

There is no single factor that causes widespread unemployment in India. Many reasons together are responsible for the same. Some of the essential causes of unemployment in India are as follows:

1. Slow Economic Growth:

The Indian economy is underdeveloped and growing at a very slow pace. The actual growth is always low as compared to the targeted rate in the five decades of planning. For the expanding labour force, slow growth rates are unable to produce enough work opportunities. The labour force is substantially larger than the number of available job opportunities.

2. Fast-Growing Population:

In India, population growth has been a severe issue. It is a significant element in the unemployment rate. The amount of unemployment has increased despite the completion of twelve five-year plans.

3. Agriculture is a Seasonal Occupation:

India's underdeveloped agricultural sector provides employment seasonally. It is undoubtedly the main industry in our nation, and a sizable portion of the people depends on it, yet due to its seasonal nature, farming does not offer consistent employment to farmers throughout the year. On average, farmers are idle for three to four months a year. Approximately, 15% of the working population in agriculture is considered to be unemployed.

4. Lack of Irrigation Facilities:

Despite years of planning, there are still few irrigation infrastructures, with only 44% of agricultural land being covered. Only one crop at a time, or monocropping, became necessary for a want of irrigation. The lack of multi-cropping means that employment options are still limited.

5. Defective Educational System:

The existing education system in India is not good and full of defects. Even though various engineering, management, and other educational institutes are providing a number of engineers, MBAs, etc., due to lack of vocational and technical training, they are unable to meet the given job requirements of companies and hence remain unemployed.

6. Decline of Cottage and Small Industries:

The potential for self-employment in India has been seriously affected by the decline of the cottage and small industries under the British government. In addition, due to shifting consumer preferences and the emergence of more productive contemporary businesses, a number of traditional village and cottage industries have diminished over time. After independence, a major industry replaced a small industry, but this did not result in the expected level of employment opportunities.

7. Low Savings and Investment:

Capital is scarce, and even when it is scarce, it is not being used properly to eliminate unemployment. The majority of the capital has been allocated to large-scale enterprises with high capital intensity per labour unit. Labour productivity per unit of capital is still quite low.

8. Limited labour Mobility:

In India, labour mobility is quite low. Even when opportunities are available in distant locations, many are reluctant to relocate due to a variety of family and social restraints. The diversity of languages, religions, and customs among states is a fundamental barrier to labour mobility. Greater unemployment is associated with less mobility.

9. Low Capital Formation:

The potential for expansion in the agricultural and industrial sectors has been restricted by low capital formation. As a result, the capacities of both sectors to create jobs have been adversely impacted.

3.3.3. Achieving Full Employment:

In the short run, when techniques of production remain unchanged, employment varies directly with output. Since output in the short run is determined by demand, changes in employment are directly related to changes in demand. Once full employment has been achieved, any further increases in demand will only cause prices to rise. According to Keynes, the end of full employment is the beginning of inflation.

Full employment can be achieved by using expansionary demand-management, i.e., monetary and fiscal policies. Monetary policy works through changes in the rates of interest and availability of bank credit. For securing full employment it is necessary to encourage private investment and consumption spending by relaxing any restrictions on the commercial banks' lending activities and the central bank, on behalf of the government, will take steps to bring about a fall in the rate of interest. Private spending may also be stimulated by a relation of any existing hire-purchase restrictions.

Fiscal policy works through a change in government expenditure or a change in taxes or in both at the same time. To create jobs, the government can act in a direct manner by increasing in own expenditures on goods and services while leaving taxation unchanged. Alternatively, it might stimulate private spending (both consumption and investment) by cutting taxes. Since the workers have a high propensity to consume, an increase in unemployment compensation may be an effective way of bringing about an increase in consumption spending.

Private investment may be encouraged by offering incentives to investors such as investment allowances or accelerated depreciation (so that the entire benefits of depreciation can be enjoyed in the very first year). Keynes suggested that the government should budget for a deficit to create jobs. The government could start road construction or slum clearance programmes. But, fiscal policy often operates with a time lag. However, in an economy like our own, with a fairly large public sector, aggregate demand could be increased by raising the volume of investment of the public sector enterprises, but, again, these measures would not take effect immediately.

Conclusion:

In practice, 100% employment cannot be achieved. Inevitably there will always exist some unemployment due to labour turnover and people spending time in searching for and selecting new jobs and because of structural changes in the economy — job losses in declining industries which requires people to transfer to new jobs created in expanding sectors.

3.4. CLASSICAL THEORY OF EMPLOYMENT

The classical theory assumes over the long period the existence of full employment without inflation. Given wage-price flexibility, there are automatic competitive forces in the economic system that tend to maintain full employment, and make the economy produce output at that level in the long run. Thus, full employment is regarded as a normal situation and any deviation from this level is something abnormal since competition automatically pushes the economy toward full employment. The classical theory of income, output and employment is based on the following assumptions:

- There is a normal situation of full employment without inflation.
- There is a laissez faire capitalist economy without foreign trade.
- There is perfect competition in labour, money and product markets.
- Labour is homogeneous.
- Total output of the economy is divided between consumption and investment expenditures.

- The quantity of money is given. Money is only a medium of exchange.
- Wages and prices are flexible.
- Money wages and real wages are directly related and this relationship is proportional.
- Capital stock and technological knowledge are given in the short run.

3.5. SAY'S LAW OF MARKETS:

Say's Law of Markets is the core of the classical theory of employment. Jean Baptiste Say, an early 19th century French Economist gave the proposition that "supply creates its own demand." This is known as Say's Law. In Say's own words, "It is production which creates markets for goods. A product is no sooner created than it, from that instant, affords a market for other products to the full extent of its own value. Nothing is more favourable to the demand of one product, than the supply of another."

In its original form, the law was applicable to a barter economy where goods are ultimately sold for goods. Every good brought to the market creates a demand for some other goods. Say argued that since work is unpleasant, no person will work to make a product unless he wants to exchange it for some other product which he desires. Therefore, the very act of supplying goods by a large number of small producers implies a demand for them from producers of other goods. In each a situation there cannot be general over-production because supply of goods will not exceed demand as a whole.

Classical conceded that particular good may be overproduced because the producer incorrectly estimates the quantity of the product which others want. But this is a temporary phenomenon for the excess production of particular product can be corrected in time by reducing its production. Even after a hundred years, James Mill supported Say's Law in these words, "Consumption is coextensive with production and production is the cause, and the sole cause of demand. It never furnishes supply without furnishing demand, both at the same time and both to an equal extent.... whatever the amount of annual produce; it can never exceed the amount of annual demand." Thus supply creates its own

demand and there cannot be general overproduction and hence general unemployment. The classical logic was that existence of money does not alter the working of the basic law. “Say’s law, in a very broad way, is,” as Professor Hansen has said, “a description of a free-exchange economy. So conceived, it illuminates the truth that the main source of demand is the flow of factor income generated from the process of production itself. When producers obtain the various inputs (land, labour and capital) to be used in the production process, they generate the necessary income accruing to the factor owners in the form of rent, wages and interest. This, in turn, causes adequate demand for the goods produced. In this way, supply creates its own demand. This reasoning is based on the assumption that all income earned by the factor-owners is automatically spent in buying commodities which they help to produce.

Classical further maintained that what is not consumed is saved and that all saving out of income is automatically invested through the capital market. Thus, in a state of equilibrium saving must equal investment. If there is any divergence between the two, the equality is maintained through the mechanism of the rate of interest. To the classicists, interest is a reward for saving. The higher is the rate of interest, the higher the savings, and vice versa. On the contrary, the lower the rate of interest, the higher the demand for investment funds, and vice versa. If at any given time, investment exceeds saving, the rate of interest would rise. Saving would increase and investment would decline till the two are equal at the full employment level. This is because saving is regarded as an increasing function of the interest rate and investment a decreasing function of the rate of interest. This helps establish the equilibrium condition of saving-investment equality.

The process of generation of the equality between saving and investment is shown in Figure 3.1 where SS is the saving curve and II is the investment curve. The two curves intersect at E where the rate of interest gets determined at the level of Or and both saving and investment are equal to OA. If there is an increase in investment, the investment curve shifts to the right and is shown as I′I′ curve.

At the interest rate Or, investment OC is greater than OA saving. According to the classical economists, the saving curve SS remains at its original level when there is any increase in investment. To maintain the equality between saving and investment, the rate of interest will rise. This is shown in the figure to rise from Or′. At this interest rate, the saving curve SS intersects the investment curve I′ I′ at E′. Consequently, both saving and investment equal the quantity shown as OB. Thus whatever is saved gets invested through interest rate flexibility.

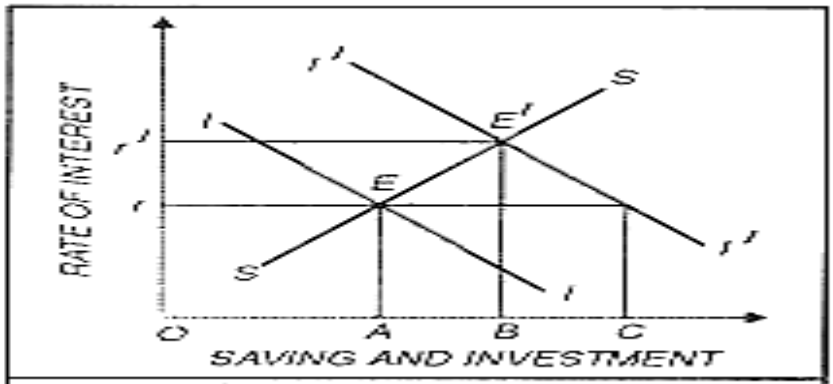

Fig. 3.1. Rate of interest equates S and I.

3.5.1. The Quantity Theory of Money and Price Level:

The validity of Say's Law in a money economy directly depends on the classical quantity theory of money which states that the general price level changes directly and proportionately to the supply of money. Algebraically stated the theory states that MV = PT where M, V, P and T are the supply of money, velocity of money, price level and the volume of transactions. The equation tells that the total money supply MV equals the total value of output PT in the economy. Assuming V (the velocity of money) and T (the total output) to be constant, a change in the supply of money (AY) causes a proportional change in the price level (P). This is based on the assumption that money acts only as a medium of exchange.

Let us show the main idea behind the quantity theory of money and its working in a competitive economy. The relation between quantity of money, total output and price level is shown in Figure 3.2 (A) where the price level is taken on the horizontal axis and the total output on the vertical axis. MV is the money supply curve which is a rectangular hyperbola.

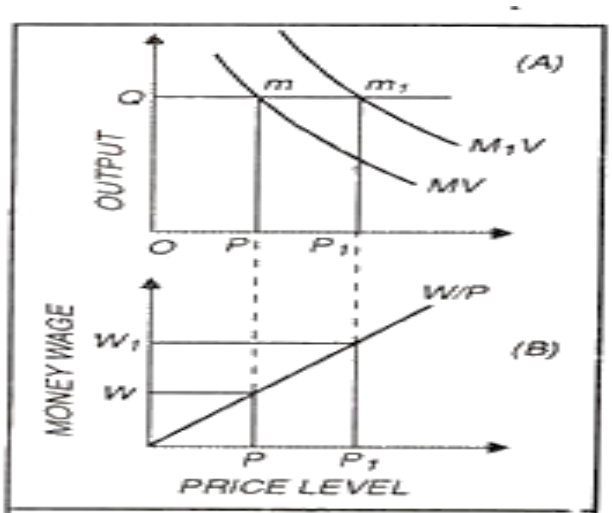

Fig. 3.2 Increased money supply reduces the real wage rate.

This is because the equation MV = PT holds on all points of this curve. Given the output level OQ, there would be only one price level (OP) consistent with the quantity of money as shown by point m on the MV curve. If the quantity of money increases, the MV curve will shift to the right: let it be shown as M_1 V curve. As a result, the price-level would rise from OP to OP1 given the same level of output OQ.

Assuming that the velocity of money V remains the same, this rise in the price level is exactly proportional to the rise in the quantity of money, i.e., $PP_1 = mm_1$. Classical believed that workers respond to the changes in real wage rate in deciding to offer more less labour and it is possible to determine the money wage consistent with a given real wage. This is explained in Figure 3.2 (B), where W/P is the real wage line or wage-price line. When the price level is OP. the money wage is OW. When the price level rises to OP the money wage also rises to OW_1 The wage-price combination $OW_1 = OP_1$ is consistent with the full employment real wage level W/P of Figure 3.3 (A) which we have drawn below. The proportionality between money wages and real wages is ensured by the operation of the quantity theory.

3.5.2. Wages Flexibility and Employment:

During the days of the Great Depression, Professor A C. Pigou supplied the most logical part of the classical theory of employment. According, to Pigou, under free competition the tendency of the economic system is to automatically provide full employment in the labour market.

Unemployment results from rigidity in the wage structure and state interference in the working of the free market economy. When the state intervenes by recognising trade unions, passing minimum wage laws, etc., and labour adopts monopolistic behaviour, wages are pushed up to unreasonable levels and unemployment results. Prof. Pigou's contention was that if all government interferences are removed and forces of competition are allowed to work freely, the market induced changes of wage rates will lead to full employment. As pointed out by Pigou, "With perfectly free competition……. there will always be at work a strong tendency for wage rates to be so related to demand that everybody is employed." Professor Pigou illustrated his point by using the following equation:

$$N = q.Y/W$$

In this equation, N is the number of workers employed, q is the fraction of income earned as wages and salaries, Y is the full employment national income and W is the average money wage rate. If Y is a given, N can be increased only by a reduction in W. Thus, the key to full employment is a reduction in the real wage. To explain his point, Pigou employed a mixture of micro and macro-economics.

This is explained in the adjoining Figure 3.3. In panel (A), S is the supply curve of labour and D is the demand curve for labour. If the intersection of the two curves at E shows the point of full employment N_f then it is the real wage IV/P at which full employment is secured. If the real wage is maintained at a higher level such as W/P_1 supply exceeds the demand for labour by Sd and we find that N_0N_f labour is unemployed. It is only when the wage is reduced to the level W/P that the unemployment disappears and the level of full employment is attained. This is shown in panel (B) of the figure where MP_1 is the marginal product of labour curve which slopes downward as more labour is employed. Since every worker is paid wages equal to his marginal product, the full employment level AY is reached when the wage rate falls from W/P_1 to W/P level.

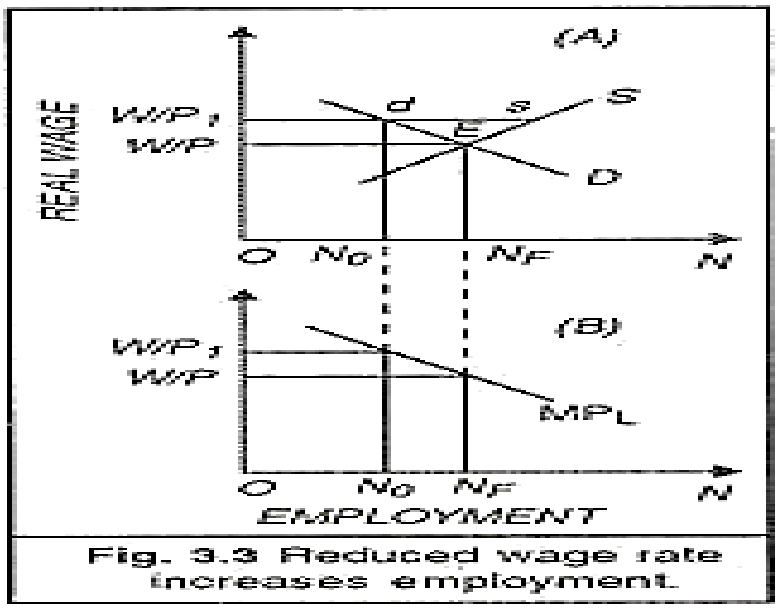

Fig. 3.3 Reduced wage rate increases employment.

Now the essence of the classical model is clear. In the classical model of employment, changes in money wages and real wages are directly related and are proportional. This follows from adoption of the classical quantity theory of money and prices. When there is a cut in the money wage, the real wage is also reduced to the same extent which reduces unemployment and ultimately brings full employment in the economy. This relationship is based on the assumption that prices are proportional to the quantity of money. It is argued that in a competitive economy a reduction in the money wage reduces the cost of production and prices of products thereby raising their demand. In order to meet the increased demand for the different products, more workers are employed to produce them.

3.5.3. The Classical Production Function:

Having analysed the working of the money, capital and labour markets, we are in a position to describe the classical production function for the economy as a whole. The classical argument runs thus: As employment increases, total output also increases till full employment is readied. But when the economy is at the full employment level, total output becomes stable. Thus given the stock of capital, technological knowledge and resources, a price is relation exists between total output and the amount of employment. Total output is an increasing function of the number of workers. The economy's short run production function is shown in Figure 3.4 as or curve which is labelled as Q =f (K, T, N), that is, total output 0 is a function of the capital stock K. of technological knowledge T,

and the number of workers, N. This production function shows that in the short run the total output is an increasing function of the number of workers, given the capital stock and technological knowledge. We find that the total output curve continues to rise but the rate of rise in total output diminishes as more workers are employed. This implies 'diminishing returns' to the use of labour and capital resources in the short run. In the Figure, the total output OR corresponds to the full employment level N_f as it is derived from Fig. 3.3 (B).

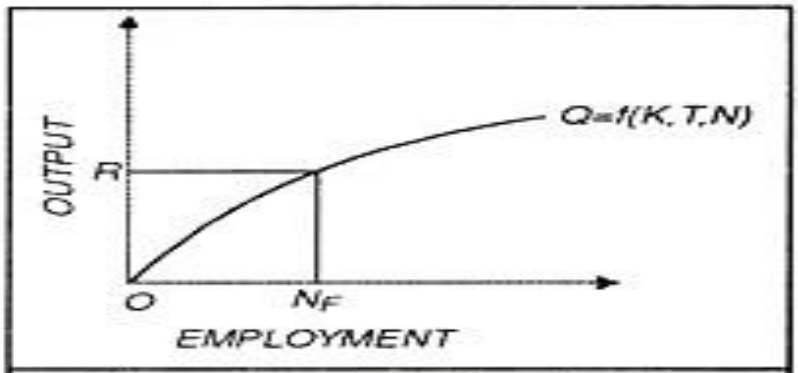

Fig. 3.4 The production function under diminishing returns.

The classicists believed that under normal competitive conditions full employment will be maintained without causing inflation. Perfect competition among employers to hire more workers will not bid wages above the full employment level, and there will be no possibility of cost inflation in the highly competitive economy. Further, due to the operation of Say's law, the full employment level of output will create aggregate demand equal to that potential output level. It is the increase in aggregate demand beyond potential output which causes inflation. But the mechanism of the rate of interest prevents aggregate demand from increasing beyond the potential output. We know that inflation is caused by an increase in the quantity of money being more than what can be absorbed by the expanding output. The competitive economy prevents this in the classical theoretical framework because an increase in the quantity of money increases only the absolute price level and not relative prices. Hence the assumption of full employment without inflation in the classical system can be considered valid for the long period. Depression and inflation are only temporary occurrences.

3.5.4. Criticism of Classical Theory:

Keynes criticised the classical theory on three main grounds:

(a) Saving depends on national income and is not affected by changes in interest rates. Investment may, of course, be influenced by it, although it depends on future profit expectations. Thus S-I equality through adjustment in interest rate is ruled out. So, Say's Law will no longer hold.

(b) The labour market is far from perfect because of the existence of trade unions and government intervention in the form of imposition of minimum wage laws. Thus, wages are unlikely to be flexible. Trade unions may succeed in raising wages even when there is no excess demand for labour, rather there is excess supply. Wages are more inflexible downward than upwards. So, a fall in demand (when S exceeds I) will lead to fall in production and employment. The problem is not one of involuntary idleness of resources including manpower.

c) Keynes also argued that' even if wages and prices were flexible a free enterprise economy would not always be able to achieve automatic full employment. In a depression economy monetary policy would lose its effectiveness and would be unable to influence the rate of interest and thus the volume of investment and the level of income. The interest inelasticity of investment has been a subject matter of much debate and controversy.

3.6. PIGOU EFFECT

The Pigou effect, also known as the wealth effect, was propounded by A.C. Pigou in 1943 to counter Keynes' argument that wage-price deflation cannot lead to automatic full employment. Pigou fully recognised that interest-rate effect of Keynes that wage-price deflation raises investment and income through a reduction in the interest rate. But he did not agree that the real income cannot be raised to the level of full employment due to liquidity trap. According to Pigou, a wage-price deflation will generate automatic full employment via an increase in the level of consumption. He argued that when money wages are cut, prices fall and the value of money rises. The rise in the value of money means a rise in the real value of assets such as stocks, shares, bank deposits, government securities, bonds, etc.

For example, if prices fall by 50 per cent, the real value of each rupee will be doubled because it will purchase twice as much as it did before. The increase in the real value of fixed assets will make their owners feel richer than before. They will, therefore, save less out of their current income and spend more on consumption. This will increase aggregate demand and output, and will generate automatic full employment in the economy. As a result of the Pigou effect, the consumption function will shift upward (or the saving function will shift downward). In terms of the IS function, it means a rightward shift of the IS curve.

The important point in Pigou effect is that it is based on the assumptions of flexible wage and price levels, and a constant stock of money. Therefore, it is only the IS curve that shifts to the right with increase in consumption or reduction in saving when the real value of fixed assets increases. The LM curve is assumed to be given because of the assumption of a constant stock of money. This is because the analysis of Pigou effect runs strictly in terms of static analysis.

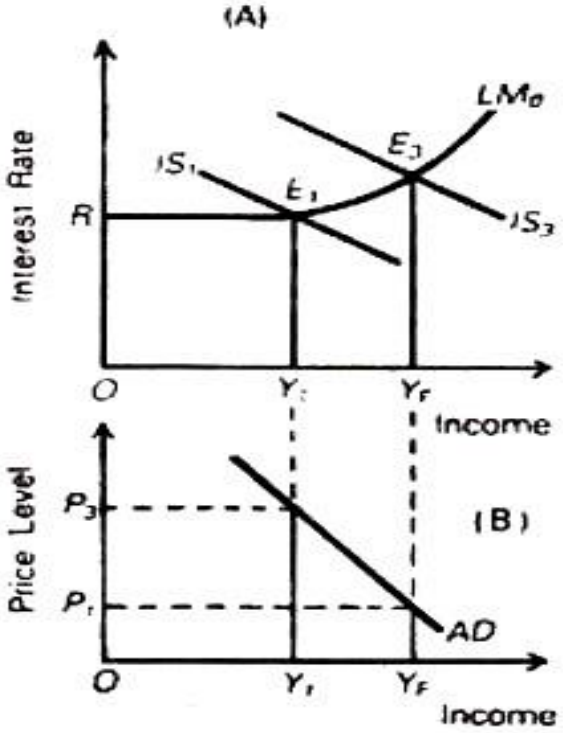

Fig.3.5. Pigou Effect

Another important point is that this analysis is based upon the flexibility of absolute prices. Patinkin summarizes the Pigou effect in the following theorem: "There always exists a sufficiently low price level such that, if expected to continue indefinitely, it will generate full employment." Algebraically, if the money supply which is assumed to be constant is M_0 and the price level is P_1 then the saving function (or consumption function) will be $S=f [RY (M_0/P)]$. Thus saving depends upon the interest rate (R), income (Y) and the ratio of given money supply to absolute prices (M_0/P).

When prices fall the real value of a given stock of money rises and people reduce their saving or increase consumption, thereby increasing aggregate demand. This process will automatically lead the economy to the level of full employment when decline in wages and prices stops. In the Pigou effect, interest elasticity and positions of the saving and investment functions are irrelevant. The Pigou effect is illustrated in Fig. 3.5 (A) and (B). To begin with Panel (A) of the figure, suppose the economy is at Y level of income as determined by IS_1 and LM_0 functions at E_1.

Now wage, price deflation starts which raises the consumption function such that the IS, function shifts rightwards to IS_3. Given the LM_0 function, the IS_3 function intersects the LM_0 function at E_3 thereby raising the income level from OY_1 to OY_F, the full employment level. Panel (B) of the figure shows that as the price level falls from P_3 to P, with reduction in money wages, income increases from OY to the full employment level OY_F through increase in aggregate demand via the Pigou effect. This is shown by the downward sloping aggregate demand curve AD.

Criticisms of the Pigou Effect:

The Pigou effect led to a sort of warfare among the neoclassical and the neo-Keynesians. It appeared that the former had scored a victory over the latter by providing theoretically that if wage-price deflation is incorporated in the Keynesian model, it will automatically lead to full employment of the economy. But the neo-Keynesian resistance to the Pigou effect has been so strong that economists have pointed out a number of defects in Pigou's analysis of wage price deflation as a means to automatic full employment.

The following arguments are advanced against the Pigou analysis:

1. Ignores Distributional Effects:

The Pigou effect assumes that the depressing effect of a reduction in the price level is offset by its stimulating effect on creditors. Therefore, the private sector being a creditor to the government is stimulated by a reduction in the price level. But there are debtors other than the government. So a price decline will have different reactions on debtors and creditors. Creditors are encouraged to increase their expenditures while debtors are discouraged. But if the debtors are discouraged more than the creditors are encouraged, the price decline will not have encouraging effects on expenditures. Thus Pigou overlooked the possibility of micro-economic "distributional effects."

2. Neglects the Effect of Wage-Price Deflation on Firms:

The Pigou effect considers only the effects of a change in real balances on consumption or saving of the household sector. It neglects the influence of real balances on firms. This is a serious defect in the Pigou analysis because the motivations of households and firms are different. Investment decisions of firms are favorably influenced when their real balances increase. But if firms are debtors and a price decline continues to persist, it will cause bankruptcies of firms. When debtors become bankrupt, creditors also lose. This will have a depressing effect on the economy. Thus a price decline will not lead to increase in aggregate demand and to automatic full employment in the economy.

3. Effect on Savings Uncertain:

Another defect of the Pigou analysis is that it assumes a definite knowledge about the effect on saving (or consumption) of an increase in the real balances. As a matter of fact, little is known about this. Moreover, only a small proportion of the lower income groups which form the majority of the population in a country, possess appreciable quantity of assets. Thus very few people save and those who save do not increase their consumption expenditures with the increase in the real value of their assets, following a price decline. Rather, they like to save more as their assets increase.

4. Wage-Price Deflation not Once-for-all:

The Pigou analysis is based on the assumption of once-for-all wage-price decline. It, therefore, regards a price decline as a temporary

phenomenon which is likely to be reversed when recovery starts. In practice, once-for-all price decline is not obtained. Even if it exists it is not reasonable to suppose that people will feel richer and increase their consumption expenditures at a single price decline.

5. Difficult to Measure Quantitatively:

The Pigou effect is difficult to weigh quantitatively, that is, how much consumer expenditure will increase for any given decline in the price level? "In the face of a certain amount of unemployment, it is one thing if a 10 per cent decline in the price level and accompanying increase in the real value of the stock of currency and government securities is sufficient to raise consumption spending by the amount needed to restore full employment; it is quite another if the Pigou effect is so weak that the same result can be achieved with an 80 per cent decline in the price level. If a major deflation is required, this in itself rules out reliance on the Pigou effect as a practical means of restoring an economy to full employment. According to Shapiro, "A hyper-deflation may satisfy the purely theoretical requirements of the Pigou effect, but in practice it might also produce economic distress leading to riots and even revolution."

6. Neglects Price Expectations:

Another weakness of the Pigou effect is that it neglects the role of price expectations. It is not that the price level declines only once in practice. Rather, once there is a wage-price deflation, it creates expectations of a further decline in prices. This is because of the generation of pessimism among businessmen and consumers who have a tendency to reduce their expenditures in the expectation of further decline in prices. Under the circumstances, the Pigou analysis is not likely to lead to automatic full employment.

7. Pigou Effect Disappears in the Lower Turning Point of a Trade Cycle:

Taking the Pigou analysis in relation to the trade cycle, a once-for-all wage-price reduction will not lead to complete recovery and to full employment. Suppose the wage-price deflation has been completed and the consequent rise in real balances and in the consumption function takes the economy to the level of recovery. But as recovery continues, prices will begin

to rise and the real balances with the public will start declining. So the Pigou effect will disappear once the lower turning point of a trade cycle is reached.

8. Static in Nature:

The Pigou effect is in terms of static analysis which assumes a constant stock of money. But the real world is dynamic where wage-price deflation with a constant stock of money will lead to full employment only after a long period, or it might even lead to a deflationary spiral with continuous unemployment. Thus the Pigou analysis leading to automatic full employment is unrealistic and impracticable. As he himself wrote, "The puzzles we have been considering ...are academic exercises, of some slight use perhaps for clarifying thought, but with very little chance of ever being posed on the chequer board of actual life.

3.7. REAL BALANCE EFFECT

Don Patinkin in his monumental work Money, Interest and Prices criticises the Cambridge economists for the homogeneity postulate and the dichotomisation of goods and money markets and then reconciles the two markets through the real balance effect. The homogeneity postulate states that the demand and supply of goods are affected only by relative prices. It means that a doubling of money prices will have no effect on the demand and supply of goods. Mathematically, the demand and supply function for goods are homogeneous of degree zero in prices alone. Thus this homogeneity postulate precludes the price level from affecting the goods market as well as the money market. Patinkin criticises this postulate for its failure to have any determinate theory of money and prices.

Another closely related assumption which Patinkin criticises is the dichotomisation of the goods and money markets in the neo-classical analysis. This dichotomisation means that the relative price level is determined by the demand and supply of goods, and the absolute price level is determined by the demand and supply of money. Like the homogeneity postulate, this assumption also implies that the price level has absolutely no effect on the monetary sector of the economy, and the level of monetary prices, in turn, has no effect on the real sector of the economy.

After condemning the neo-classical assumptions outlined above, Patinkin integrates the money market and the goods market of the economy which depend not only on relative prices but also on real balances. Real balances mean the real purchasing power of the stock of cash holdings of the people. When the price level changes, it affects the purchasing power of people's cash holdings which, in turn, affects the demand and supply of goods. This is the real balance effect. Patinkin denies the existence of the homogeneity postulate and the dichotomisation assumption through this effect. For this, Patinkin introduces the stock of real balances (M/P) held by community as an influence on their demand for goods.

Thus the demand for a commodity depends upon real balance as well as relative prices. Now if the price level rises, this will reduce the real balances (purchasing power) of the people who will spend less than before. This implies a fall in the demand for goods and the consequent fall in prices and wages. The price decline increases the value of money balances held by the people which, in turn, increases the demand for goods directly. The initial decrease in commodity demand creates a state of involuntary unemployment. But unemployment will not last indefinitely because as wages and prices fall, the real balance effect tends to increase commodity demand directly and indirectly through the interest rate. With sufficiently large fall in wages and prices, the full employment level of output and income will be restored.

Finally, even if there is the "liquidity trap", the expansion of the money supply will increase money balances and full employment can be restored through the operation of the real balance effect. According to Patinkin, "This is the crucial point. The dynamic grouping of the absolute price-level towards its equilibrium value willâ€"through the real balance effectâ€"react on the commodity markets and hence on relative prices." Thus absolute prices play a crucial role not only in the money market but also in the real sector of the economy. Patinkin further points out that "once the real and monetary data of an economy with outside money are specified, the equilibrium values of relative prices, the rate of interest, and the absolute price level are simultaneously determined by all the markets of the economy." In this way, Patinkin also introduces the real balance effect in the general equilibrium

analysis. Besides removing the classical dichotomy and the homogeneity postulate and integrating the monetary and value theory through the real balance effect, Patinkin also validates the quantity theory conclusion. According to Patinkin, the real balance effect implies that people do not suffer from 'money illusion'. They are interested only in the real value of their cash holdings. In other words, they hold money for 'what it will buy'. This means that a doubling of the quantity of money will lead to a doubling of the price level, but relative prices and the real balances will remain constant and the equilibrium of the economy will not be changed.

The real balance effect is illustrated, diagrammatically in Fig. 3.6 by using the IS and LM technique because the IS curve represents the goods market and the LM curve the money market. To begin with, we take a situation when the economy is in equilibrium at OY_1 level of income when the IS and LM curves intersect at point A where the interest rate is Or_1. Assuming OY_F as the full employment level, the pressure of unemployment-is measured by Y_1-Y_1 which causes wages and prices to fall simultaneously.

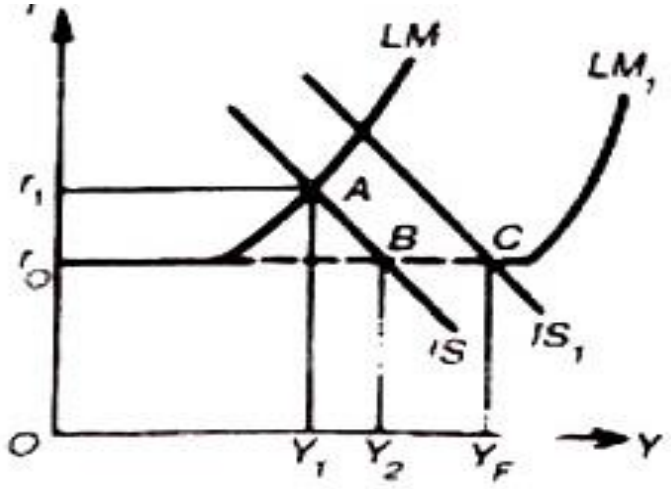

Fig.3.6. Real Balance Effect

This results in an increase in the real value of people's money holdings which shifts the LM curve to the right to LM_1. It intersects the IS curve at point B the income level OY_2 with the result that the interest rate falls to Or_0 which stimulates investment, discourages savings and increases consumption. Even when the interest rate falls to its minimum level Or_0, the level of demand in the commodity market as represented by the IS curve is not high enough to lead the economy to the full employment level OY_F. Rather, unemployment

measured by Y_2-Y, remains in the economy. This much unemployment leads to a further fall in wages and prices, and to the increase in demand for consumption goods which shifts the IS curve to the right to IS_1 so that it intersects the LM_1, curve at point C at the full employment level OY_F. Thus under conditions of wage and price flexibility when the IS and LM curves shift rightwards, the real balance effect ultimately leads the economy to full employment level, even in the liquidity trap situation as shown above when investment is interest inelastic.

Conclusion:

Thus the real balance effect demonstrates three theoretical points: first, it eliminates the classical dichotomy between value and monetary theory; second, it validates the conclusions of the quantity theory that in equilibrium, money is neutral and the interest rate is independent of the quantity of money through the real balance effect; and third, the wage-price flexibility leads to full employment in the long-run and that the Keynesian underemployment equilibrium is a disequilibrium situation.

Criticisms of Patinkin Analysis of the Real Balance Effect:

Patinkin's analysis of the real balance effect has been severely criticised by Johnson, Archibald, Lipsey, Lloyd and other economists.

1. Not Applicable in Equilibrium Situations:

Johnson points out that there is no need for the real balance effect so long as the real analysis is confined to equilibrium situations. The real balance is needed only to ensure the stability of the price level and not to determine the real equilibrium of the system.

2. Conceptually Inadequate:

Archibald and Lipsey regard Patinkin's analysis of the real balance effect as conceptually inadequate. According to them, Patinkin traces the real balance analysis as a short-run phenomenon and does not work it out through the long-run.

3. Price Stability without Real Balance Effect:

Cliff Lloyd has criticised Patinkin for holding the classical view that people do not suffer from 'money illusion', and that their behaviour is influenced by the real balance effect. He has shown that the stability of the

price level can be had without taking the real balance effect. According to him, by assuming that money is available in fixed quantity and people want to hold it, will bring price stability. But 'money illusion' will not be absent.

4. Failure to Explain Increase in Monetary Wealth:

Shaw has criticised Patinkin for his failure to analyse the manner in which the increase in monetary wealth comes about. According to him, Patinkin simply assumes a doubling of money balances and analyses only the resultant effects. In practice, money stock does not change in this manner. "Nor, in most cases, do people experience the happy variations of helicopters carrying a surfeit of bank notes. . ."

Conclusion:

Despite these criticisms, "the introduction of the real balance effect disposes of the classical dichotomy, that is, it makes it impossible to talk about relative prices without introducing money; but it nevertheless preserves the classical proposition that the real equilibrium of the system will not be affected by the amount of money, all that will be affected will be the level of prices."

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UNIT - IV

PRINCIPLE OF EFFECTIVE DEMAND

4.1. INTRODUCTION

Keynes theory of employment is the principle of effective demand. In a capitalist economy the level of employment depends on effective demand. The unemployment result from a deficiency of effective demand and the level of employment can be raised by increasing the level of effective demand. Economists mostly assumed the prevalence of the state of full employment believing in Say's law of Markets, an old proposition claiming that all income is automatically spent or that the level of Effective Demand is always enough to lift all goods and services produced off the market. There were many economists who challenged the assumptions and logic of the Say's Law. For example, T.R. Malthus tried hard to convince contemporaries the demand in general might fall short of supply in general and the deficiency of aggregate demand might cause general over production and hence general unemployment. But Malthus failed to explain how effective demand could be deficient or excessive. It was Keynes, who for the first time put forward a systematic and convincing theory of employment based on the 'Principle of Effective Demand".

4.2. KEYNES'S PRINCIPLE OF EFFECTIVE DEMAND:

The principle of 'effective demand' is basic to Keynes' analysis of income, output and employment. Economic theory has been radically changed with the introduction of this principle. Stated briefly, the Principle of Effective Demand tells us that in the short period, an economy's aggregate income and employment are determined by the level of aggregate demand which is satisfied with aggregate supply. Total employment depends on total demand. As employment increases, income increases. A fundamental principle about the propensity to consume is that as the real income of the community increases, consumption will also increase but by less than income. Therefore, in order to have enough demand to sustain an increase in employment there must be an increase in real investment equal to the gap between income and consumption out of that income. In other words, employment can't increase, unless investment increases. We

can generalize and say; a given level of income and employment cannot be maintained unless investment is sufficient to absorb the saving out of that level of income. This is the core of the principle of effective demand.

4.3. MEANING OF EFFECTIVE DEMAND:

Demand means desire. It becomes effective when income is spent in buying consumption goods and investment goods. Keynes used the term 'effective demand' to denote the total demand for goods and services at various levels of employment. Different levels of employment represent different levels of aggregate demand. But there can be level of employment where aggregate demand equals aggregate supply. This is the point of effective demand. Keynes words, "the value of aggregate demand function where it is intersected by the aggregate supply function, will be called the effective demand." Thus according to Keynes, the level of employment is determined by the effective demand which, in turn, is determined by aggregate demand price and aggregate supply price.

Effective demand manifests itself in the spending of income. It is judged from the total expenditure in the economy. The total demand in the economy consists of consumption goods and investment goods, though consumption goods demand forms a major part of the total demand. Consumption goes on increasing with increase in income and employment. At various levels of income there are corresponding levels of demand but all levels of demand are not effective. Only that level of demand is effective which is fully met with the forthcoming supply so that entrepreneurs neither have a tendency to reduce nor to expand production. Effective Demand is the demand for the output as a whole; in other words, out of the various levels of demand, the one which is brought in equilibrium with supply in the economy is called effective demand. It was this theory of effective demand which remained neglected for more than 100 years and came into prominence with the appearance of Keynes' General Theory.

Keynes was interested in the problem of how much people intended to spend at different levels of income and employment, as it was this intended spending that determined the level of consumption and investment. Keynes's view was that people's intentions to spend were

translated into aggregate demand. Should aggregate demand, said Keynes, fall below income businessmen expect to receive, there will be cut backs on production of goods resulting in unemployment. On the opposite, should aggregate demand exceed expectations, production will be stimulated. In any community, effective demand represents the money actually spent by- people on goods and services. The money which the entrepreneurs receive is paid to the factors of production in the form of wages, rent, interest and profit. As such, effective demand (actual expenditure) equals national income which is the sum of the income receipts of all members of the community.

It also represents the value of the output of the community because the total value of the national output is just the same thing as the receipts of the entrepreneurs from selling goods. Further, all output is either consumption goods or investment goods; we can therefore say that effective demand is equal to national expenditure on consumption plus investment goods. Thus, effective demand (ED) = national income (Y) = value of national output = Expenditure on consumption goods (C) + expenditure on investment goods (I). Therefore, ED = Y = C + I= 0 = Employment.

4.4. Importance of the Concept of Effective Demand:

The principle of effective demand occupies an integral position in the Keynesian theory of employment. The general theory has the basic observation that total demand determines total employment. A deficiency of effective demand causes unemployment. The Principle of Effective Demand has its importance on the following counts.

In the first place, it can be said that it is with the help of the concept of effective demand that Say's Law of Markets has been repudiated. The concept of effective demand has established beyond doubt that whatever is produced is not automatically consumed nor is the income spent at a rate which will keep the factors of production fully employed.

Secondly, an analysis of effective demand also shows the inherent contradictions in Pigou's plea that wage cuts will remove unemployment. In Keynes' view, as level of employment depends upon the level of effective demand, wage cuts may or may not increase employment.

Thirdly, the Principle of Effective Demand could explain as to how and why a depression could come to stay. Keynes explained that Effective demand consists of consumption and investment. As employment increases, income also increases leading to a rise in consumption but by less than the rise in income. Thus, consumption lags behind and becomes the chief reason of the gap that comes to exist between total income and total expenditure therefore, in order to maintain effective demand at earlier (or original) level, real investment, equal to the gap between income and consumption, must be made. In other words, employment cannot expand unless investment expands. Therein has the all most importance of the principle of effective demand. It makes clear that investment rules the roost.

Fourthly, it puts the spotlight on the demand side. In contrast to the classical emphasis on the supply side, Keynes placed major emphasis on demand side and traced fluctuations in employment to changes in demand. The theory of effective demand makes clear how and why aggregate demand becomes deficient in a capitalist economy and how deficiency of effective demand generates depression.

4.5. DETERMINANTS OF EFFECTIVE DEMAND:

For an understanding of Keynes' theory of employment and how an equilibrium level of employment is established in the economy, we must know its determinants the aggregate demand function and the aggregate supply function and their inter-relationship.

1. Aggregate Demand Function, and
2. Aggregate Supply Function.

1. Aggregate Demand Function:

Aggregate Demand Function relates any given level of employment to the expected proceeds from the sale of production out of that volume of employment. What the expected sale proceeds will be depends upon the expected expenditures of the people on consumption and investment. Every producer in a free enterprise economy tries to estimate the demand for his product and calculate in anticipation the profit likely to be earned out of his sale proceeds.

The sum-total of income payments made to the factors of production in the process of production constitutes his factor costs. Thus, the factor costs and the entrepreneur's profit added to them give us the total income or proceeds resulting from a given amount of employment in a firm. Keynes carried this idea into macro-economics. We can calculate the aggregate income or total sale proceeds. This aggregate income or aggregate proceeds Expected from a given amount of employment is called the "Aggregate Demand Price" of the output of that amount of employment, i.e., it represents expected receipts when a given volume of employment is offered to workers. Entrepreneurs make decisions about the amount of employment they will offer to labour on the basis of the expectations of sales and expected profit which, in turn, depend upon the estimate of the total money (income) they will receive by the sale of goods produced at varying levels of employment. The sale proceeds which they expect to receive are the same as they expect the community to spend on their production.

A schedule of the proceeds expected from the sale of outputs resulting from varying amounts of employment is called the aggregate demand schedule or the aggregate demand Junction. The aggregate demand function shows the increase in the aggregate demand price as the amount of employment and hence output increases. Thus, the aggregate demand schedule is an increasing function of the amount of employment. The question may reasonably be asked: why did Keynes relate expected sale proceeds with employment through output and why not with output directly?

Three possible reasons may be given for this:

(i) Keynes was mainly interested in the factors that go to determine employment rather than output;

(ii) To all intents and purposes employment and output move in the same direction in the short period;

(iii) The total production in the economy consists of a large variety of goods and there is no better measure of it than the labour employed.

Therefore, if D represents the proceeds expected by entrepreneurs from the employment of N men, the aggregate demand function can be written as D= f (N), which shows a relationship between D and N. The aggregate demand function or demand schedule ADF is shown in the figure 4.1. We find in the figure that the A does not start from the origin O because even at low levels of employment consumption will be much above income. As we move along the ADF curve to the right, we find that it is becoming flatter owing to the psychological law of consumption. But the ADF can never slope downwards simply because the absolute amount of consumption in the economy can never go down.

2. Aggregate Supply Function:

Aggregate supply is related to production done by firms. While providing employment to workers, entrepreneurs must feel assured that the output produced by them would be sold out and they will be able to recover their costs of production and get the expected profit margin also. A firm's output can sell at different prices depending on market conditions. But there are some proceeds of the output for which the entrepreneurs think it will just make worthwhile to provide a certain amount of employment.

The minimum expected sale proceeds of the output resulting from a given amount of employment are called the 'Aggregate Supply Price' of that output. In other words, these are the minimum expected proceeds which are considered just necessary to induce entrepreneurs to provide a certain amount of employment. For the economy as a whole at any given level of employment of labour, aggregate supply price is the total amount of (sale proceeds) which all the producers, taken together, must expect to receive from the sale of the output produced by that given number of men, if it is to be just worth employing them.

A schedule of the minimum amounts of proceeds required to induce entrepreneurs to give varying amounts of employment is called the aggregate-supply schedule. This is also an increasing function of the amount of employment. In other words, the minimum sale proceeds necessary go on rising as employment and output are raised. This is due

to the rise in cost of production with increasing output, given the capital stock, the techniques of production and organization in the short run.

It is pertinent to observe here that in the aggregate demand function it is the expected sale proceeds that we consider and in the aggregate supply function it is the minimum sale proceeds necessary. There will be difference between them because at certain levels of employment (outputs), producers will expect more proceeds than the minimum sale proceeds necessary. There will be other levels of employment where the sale proceeds expected may be less than the sale proceeds necessary. The Aggregate Supply Function ASF is shown in Figure 4.1 as rising from left upwards to the right gradually at first and then quickly. The ASF becomes vertical after the point S_2 because at this level of aggregate supply all those who want to be employed get employment. This point indicates full employment in the economy.

Determination of the Level of Employment:

In Fig. 4.1, ADF is the Aggregate Demand Function and ASF the Aggregate Supply Function. We show employment along X-axis and sale proceeds along Y-axis. The point E where the ADF curve is cut by the aggregate supply curve is called the point of effective demand. It may be noted that there are so many points on the aggregate demand curve ADF, but all these points are not effective except point E. In the diagram, aggregate supply function shows the minimum proceeds which are just necessary to induce entrepreneurs to provide varying amounts of employment; the aggregate demand function shows the proceeds expected from the sale of outputs resulting from various amounts of employment. Before these curves intersect each other at E, ASF lies below the ADF so that at the one level of employment the expected sale proceeds N_1D_1 are greater than the minimum sale proceeds necessary N_1S_1 showing that the employers will be induced to provide increased amount of employment. At point E, ADF is intersected by ASF' and entrepreneurs' expectations of proceeds are realised. The point E is called the point of equilibrium as it determines the actual level of employment (ON) at a particular time in an economy. The level of employment ON_2 is not an equilibrium level because

the sale proceeds expected N_2D_2 are less than the sale proceeds necessary N_2S_2 at this level of employment. Most of the entrepreneurs will be disappointed and will reduce employment. Thus, we see that:

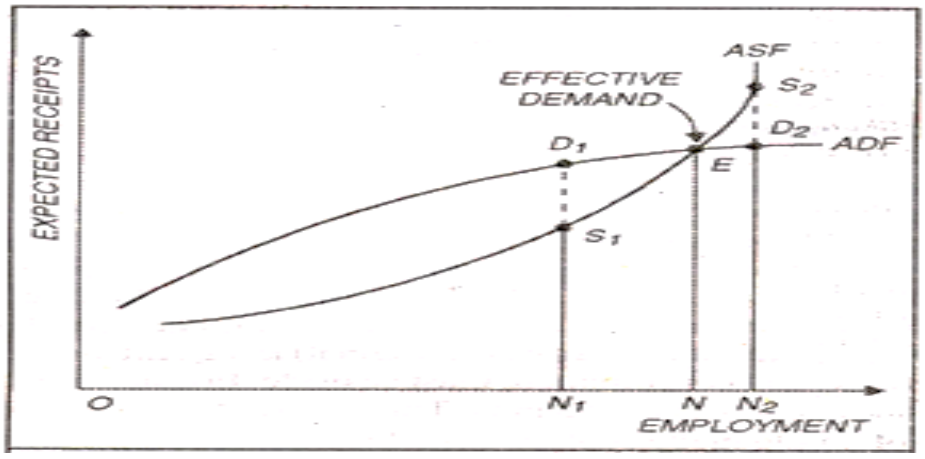

Fig.4.1. the Aggregate Demand Function (ADF)

The intersection of the aggregate demand schedule with the aggregate supply schedule determines the actual level of employment m an economy and that at this level of employment, the amount of sale proceeds which the entrepreneurs expect to receive is equal to what they must receive if their 'costs' at that level of employment are to be just covered.

UNDEREMPLOYMENT EQUILIBRIUM:

It may, however, be noted that the economy is no doubt, in equilibrium at the point E, for here the entrepreneurs do not have the tendency either to increase or decrease employment. But Keynes makes a singular contribution to economic analysis by saying that E may or may not be a point of full employment equilibrium. If it is so very good.

If, however, some workers still remain unemployed when ADF and ASF are equalised, in that ease, it will be known as Underemployment Equilibrium. Keynes argued like this. Aggregate demand and aggregate supply might be equal at full employment; this will be so if investment happens to equal the gap between the aggregate supply price corresponding to full employment and the amount which consumers choose to spend on consumption out of full employment income. Keynes believed that private investment in a capitalist economy is never sufficient to fill such a gap. As such, there is every likelihood that aggregate demand function and aggregate supply function may intersect at a point of less

than full employment-called Underemployment Equilibrium. If underemployment equilibrium is the common situation in the capitalist economy, then how can we achieve full employment Keynes suggested that in the short period government can raise aggregate demand in the economy through public investment which is not profit-motivated. Refer to Figure 4.2. Suppose the government makes an investment equal to D_2S_2 and this raises the ADF to the level ADF' and the demand function cuts the supply function at S_2. The vertical line from the point S_2 down on the horizontal axis shows that this policy of public investment would achieve the full employment ON_2 in the economy.

Shapes of the ASF and ADF:

It is very' difficult to comment upon the shapes of Aggregate Demand Schedule and Aggregate Supply Schedule. Presuming, however, that the money prices of all goods are constant and employment and output rise and fall in proportion to each other, we can safely come to the conclusion that both the aggregate demand function and the aggregate supply function are increasing functions of employment; then rise from left upwards to the right. The ADF rises at first rather steeply and then goes flatter and flatter.

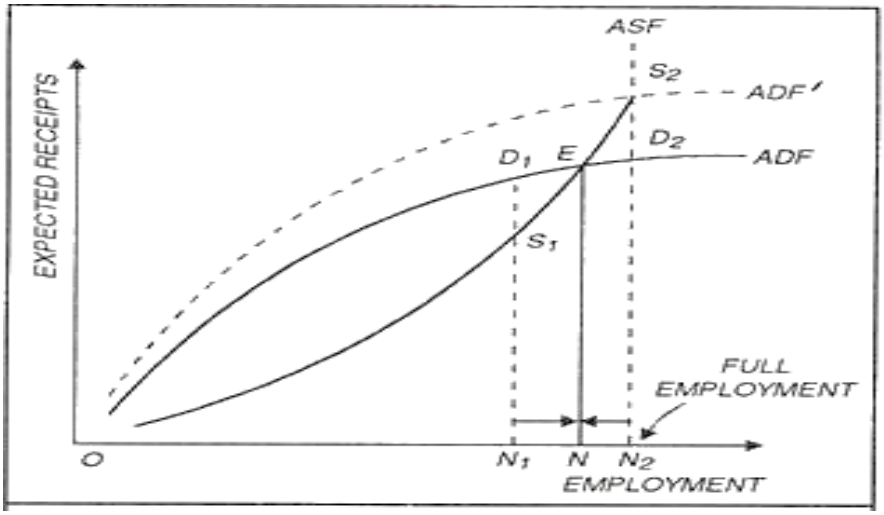

Fig.4.2 Determination of Employment through the principle of effective demand

This is because of (nature of the consumption function) MFC being less than one. The ISF rises slowly at first because of the available unemployed resources. As bottlenecks in production are faced, diminishing returns

(increasing costs) become more prominent. Beyond the point of full employment, production cannot be increased at all. So the ASF which was rising steeply becomes vertical beyond the full employment point (S_2).

Relative Importance of ASF and ADF Functions:

Since the equilibrium level of employment is determined by the intersection of these two schedules, it would be useful to know some more details about the nature and character of these schedules. Of the two, there is little that is important about Aggregate Supply Function. Keynes gives scant attention to the aggregate supply function and concentrates more on aggregate demand function. For all practical purposes, he takes ASF as given because he deals with the short period and in the short period, supply conditions cannot be changed.

Moreover, in the General Theory, Keynes was concerned with an economy facing unemployment of resources during depression. Under such circumstances, there is little to gain from manipulating the technical conditions of production like costs, machines, and materials through schemes like rationalisation. Rationalisation results in more unemployment in the short period. It was because of these reasons that Keynes took ASF as given.

Since the supply conditions had to be taken as given. Keynes gave more importance to the aggregate demand function. Given the aggregate supply schedule, the resources in an economy would be fully utilised only if there is enough aggregate demand It is because of this that some economists call his theory of employment a 'theory of aggregate effective demand'. Aggregate demand depends upon consumption and investment. If employment is to be expanded, expenditure on consumption and investment should be stepped up.

Thus, the shape and position of the aggregate demand function depend upon the total expenditure incurred by a community on consumption and investment taken together. Assuming, as Keynes docs, the aggregate supply function to be given, the pith and substance of his argument in the General Theory is that employment is determined by

aggregate demand, which in turn, depends on the propensity to consume and the amount of investment at a given time.

Effective Demand Versus Say's Law:

The classical theory failed in attempting to apply Say's law to the demand for investment. Whereas it is true that more employment creates more income out of which some will be spent on consumption, the entire increase in income will not be so spent and there is no reason to believe that the difference will be devoted to investment expenditure. Hence if investment does not increase with an increase in employment, the sum of consumption expenditure and investment would be less than the aggregate supply price for the higher level of employment.

Businessmen would reduce employment to a level at which the aggregate supply price exceeds the consumption demand by the actual amount of investment. Hence as long as the gap between income and consumption is not automatically filled up by investment (i.e. Y = C + I) Say's Law would not operate. It is here that we find Say's Law uprooted by the concept of Effective Demand as developed by Keynes.

Aggregate Demand in the Statistical Sense:

So far we have considered two determinants of effective demand, i.e., private consumption and private investment, but in modern capitalist societies Government expenditure has also become an additional important item. Thus, Effective demand = C + I + G, Keynes look no account of Government expenditure but post Keynesians treat it as an important constituent of effective demand.

Aggregate demand in the statistical sense is thus made up of:

(i). Private consumption expenditure,

(ii). Private investment expenditure,

(iii). Public investment expenditure,

(iv). Foreign expenditures on domestic goods and services, over and above domestic expenditure on foreign goods and services.

In this way, the aggregate demand is a flow of money expenditure on final output in a given period. All these are components of effective demand.

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UNIT - V

CONSUMPTION FUNCTION

5.1. INTRODUCTION:

One of the important tools of the Keynesian economics is the consumption function. The consumption function, its technical attributes, its importance and its subjective and objective determinants along with Keynes's Psychological Law of Consumption.

5.2. MEANING OF CONSUMPTION FUNCTION

The consumption function or propensity to consume refers to income-consumption relationship. It is a "functional relationship between two aggregates, i.e., total consumption and gross national income." Symbolically, the relationship is represented as C = f(Y), where C is consumption, Y is income, and f is the functional relationship. Thus the consumption function indicates a functional relationship between C and Y, where C is the dependent by Y is the independent variable, i.e., C is determined by Y. This relationship is based on the ceteris paribus (other things being equal) assumption, as such only income-consumption relationship is considered and all possible influences on consumption are held constant. In fact, the propensity to consume or consumption function is a schedule of the various amounts of consumption expenditure corresponding to different levels of income. A hypothetical consumption schedule is given in Table 5.1.

Table 5.1: Consumption Schedule

(Rs Crores)

Income (Y)	Consumption C = f (Y)
0	20
60	70
120	120
180	170
240	220
300	270
360	320

Table 5.1 shows that consumption is an increasing function of income because consumption expenditure increases with increase in income. Here it is shown that when income is zero during the depression, people spend out of their past savings on consumption because they must eat in order to live.

When income is generated in the economy to the extent of Rs 60 crores, it is not sufficient to meet the consumption expenditure of the community so that the consumption expenditure of Rs 70 crores is still above the income amounting to Rs 60 crores (Rs 10 crores are dis-saved). When both consumption expenditure and income equal Rs 120 crores, it is the basic consumption level. After this, income is shown to increase by 60 crores and consumption by 50 crores. This implies a stable consumption function during the short-run as assumed by Keynes.

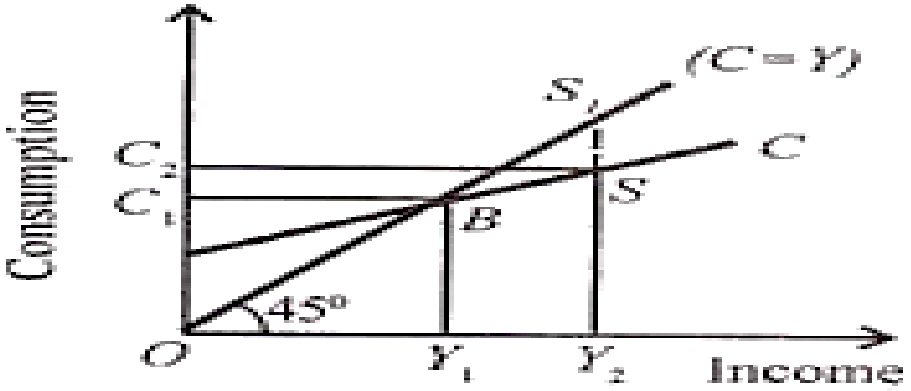

Fig.5.1. Consumption Function

Figure 5.1 illustrates the consumption function diagrammatically. In the diagram, income is measured horizontally and consumption is measured vertically. 45° is the unity-line where at all levels income and consumption are equal. The C curve is a linear consumption function based on the assumption that consumption changes by the same amount (Rs 50 crores). Its upward slope to the right indicates that consumption is an increasing function of income. B is the break-even point where C=Y or $OY_1 = OC_1$. When income rises to OY_1 consumption also increases to OC_2, but the increase in consumption is less than the increase in income, $C_1C_2 < Y_1Y_2$. The portion of income not consumed is saved as shown by the vertical distance between 45° line and C curve, i.e., SS_1. "Thus the consumption function measures not only the amount spent on consumption but also the amount saved. This is because the propensity to save is merely the propensity not to consume. The 45° line may therefore be regarded as a zero-saving line, and the shape and position of the C curve indicate the division of income between consumption and saving."

5.3. Properties of the Consumption Function:

The consumption function has two technical attributes or properties:

(i) The average propensity to consume, and

(ii) The marginal propensity to consume.

(1) The Average propensity to Consume:

"The average propensity to consume may be defined as the ratio of consumption expenditure to any particular level of income." It is found by dividing consumption expenditure by income, or APC = C/Y. It is expressed as the percentage or proportion of income consumed.

The APC at various income levels is shown in column 3 of Table 5.2. The APC declines as income increases because the proportion of income spent on consumption decreases. But reverse is the case with APS (average propensity to save) which increases with increase in income (see column 4). Thus the APC also tells us about the average propensity to save, APS=1—APC. Diagrammatically, the average propensity to consume is any one point on the C curve. In Figure 5.2 Panel (A), point R measures the APC of the C curve which is OC_1/OY_1. The flattening of the C curve to the right shows declining APC.

(2) The Marginal Propensity to Consume:

"The marginal propensity to consume may be defined as the ratio of the change in consumption to the change in income or as the rate of change in the average propensity to consume as income changes." It can be found by dividing change in consumption by a change in income, or MPC = $\Delta C/\Delta K$.

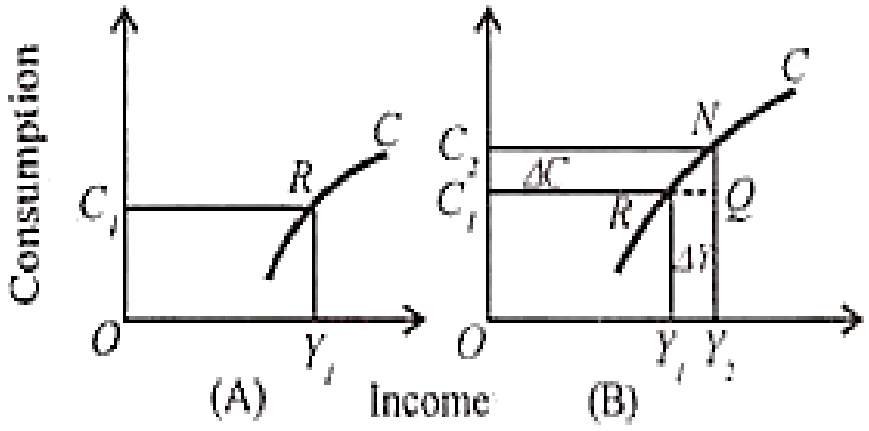

Fig.5.2. APC & MPC

The MPC is constant at all levels of income as shown in column 5 of Table 5.2. It is 0.83 or 83 per cent because the ratio of change in consumption to change in income is $\Delta C/ \Delta Y = 50/60$. The marginal propensity to save can be derived from the MPC by the formula 1 -MPC. It is 0.17 in our example (see column 6). Diagrammatically, the marginal propensity to consume is measured by the gradient or slope of the C curve. This is shown in Panel (B) by NQ/RQ where NQ is change in consumption (ΔC) and RQ is change in income (ΔY) or C_1C_2 / Y_1Y_2.

5.3.1. SIGNIFICANCE OF MPC:

The MPC is the rate of change in the APC. When income increases, the MPC falls but more than the APC. Contrariwise, when income falls, the MPC rises and the APC also rises but at a slower rate than the former. Such changes are only possible during cyclical fluctuations whereas in the short-run there is change in the MPC and MPC < APC. Keynes is concerned primarily with the MPC, for his analysis pertains to the short-run while the APC is useful in the long-run analysis. The post-Keynesian economists have come to the conclusion that over the long-run APC and MPC are equal and approximate 0.9. In the Keynesian analysis the MPC is given more prominence. Its value is assumed to be positive and less than unity which means that when income increases the whole of it is not spent on consumption.

On the contrary, when income falls, consumption expenditure does not decline in the same proportion and never becomes zero. The Keynesian hypothesis that the marginal propensity to consume is positive but less than unity ($O < \Delta C/\Delta Y < 1$) is of great analytical and practical significance. Besides telling us that consumption is an increasing function of income and it increases by less than the increment of income, this hypothesis helps in explaining "(a) the theoretical possibility of general over production or 'underemployment equilibrium,' and also (b) the relative stability of a highly developed industrial economy.

For it is implied that the gap between income and consumption at all high levels of income is too wide to be easily filled by investment with the possible consequence that the economy may fluctuate around

underemployment equilibrium. Thus the economic significance of the MPC lies in filling the gap between income and consumption through planned investment to maintain the desired level of income. Further, its importance lies in the multiplier theory. The higher the MPC, the higher the multiplier and vice versa. The MPC is low in the case of the rich people and high in the case of the poor. This accounts for high MPC in underdeveloped countries and low in advanced countries.

Table.5.2.

(Rs. Crores)

(1) Income Y	(2) Consump-tion(C)	(3) APC=C/Y	(4) APS=S/Y (1-APC)	(5) MPC= ΔC/ΔY	(6) MPS=ΔS/ΔY (1-MPC)
120	120	$\frac{120}{120}$ = 1 or 100%	0	—	—
180	170	$\frac{170}{180}$ = 0.92 or 0.92%	0.08	$\frac{50}{60}$ = 0.83	0.17
240	220	$\frac{220}{240}$ = 0.91 or 91%	0.09	$\frac{50}{60}$ = 0.83	0.17
300	270	$\frac{270}{300}$ = 0.90 or 90%	0.10	$\frac{50}{60}$ = 0.82	0.17
360	320	$\frac{320}{360}$ = 0.88 or 88%	0.12	$\frac{50}{60}$ = 0.83 or 83%	0.17

5.4. KEYNES'S PSYCHOLOGICAL LAW OF CONSUMPTION:

Keynes propounded the fundamental psychological law of consumption which forms the basis of the consumption function. He wrote, "The fundamental psychological law upon which we are entitled to depend with great confidence both a prior from our knowledge of human nature and from the detailed facts of experience, is that men are disposed as a rule and on the average to increase their consumption as their income increases but not by as much as the increase in their income." The law implies that there is a tendency on the part of the people to spend on consumption less than the full increment of income.

5.4.1. Propositions of the Law:

This law has three related propositions:

(1) When income increases, consumption expenditure also increases but by a smaller amount. The reason is that as income increases, our wants are satisfied side by side, so that the need to spend more on consumer goods diminishes. It does not mean that the consumption expenditure falls with the increase in income. In fact, the consumption expenditure increases with increase in income but less than proportionately.

(2) The increased income will be divided in some proportion between consumption expenditure and saving. This follows from the above proposition because when the whole of increased income is not spent on consumption, the remaining is saved. In this way, consumption and saving move together.

(3) Increase in income always leads to an increase in both consumption and saving. This means that increased income is unlikely to lead either to fall in consumption or saving than before. This is based on the above propositions because as income increases consumption also increases but by a smaller amount than before which leads to an increase in saving. Thus with increased income both consumption and saving increase.

The three propositions of the law can be explained with the help of the following Table 5.3.

Table 5.3. Proposition of Law

(Rs Crores)

Income (Y)	Consumption (C)	Savings (S=Y—C)
0	20	-20
60	70	-10
120	120	0
180	170	10
240	220	20
300	270	30
360	320	40

Proposition (1):

Income increases by Rs 60 crores and the increase in consumption is by Rs 50 crores. The consumption expenditure is, however, increasing with increase in income, i.e., Rs 170, 220, 270 and 320 crores against Rs 180, 240, 300 and 360 crores respectively.

Proposition (2):

The increased income of Rs 60 crores in each case is divided in some proportion between consumption and saving (i.e., Rs 50 crores and Rs 10 crores).

Proposition (3):

As income increases from Rs 120 to 180, 240, 300 and 360 crores, consumption also increases from Rs 120 to 170,220,270,320 crores, along with increase in saving from Rs 0 to 10, 20, 30 and 40 crores respectively. With increase in income neither consumption nor saving has fallen.

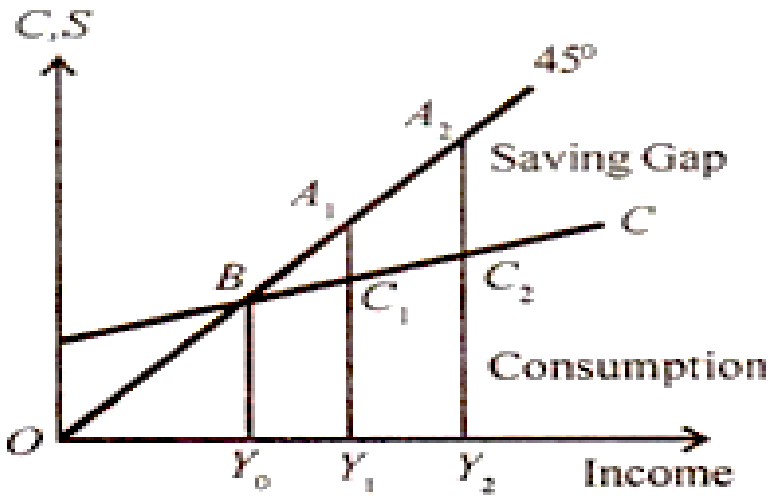

Fig.5.3.Proposition of Law

Diagrammatically, the three propositions are explained in Figure 5.3. Here, income is measured horizontally and consumption and saving are measured on the vertical axis. C is the consumption function curve and 45° line represents income.

Proposition (1):

When income increases from OY_0 to OY_1 consumption also increases from BY_0 to C_1Y_1 but the increase in consumption is less than the increase in income, i.e., $C_1Y_1 < AY_1 (=OY_1)$ by A_1C_1.

Proposition (2):

When income increases to OY_1 and OY_1 it is divided in some proportion between consumption C_1Y_1 and C_2Y_2 and saving A_1C_1 and A_2C_2 respectively.

Proposition (3):

Increases in income to OY and OY lead to increased consumption $C_2Y_2 > C_1Y_1$ and increased saving $A_2C_2 > A_1C_1$ than before. It is clear from the widening area below the C curve and saving gap between 45° line and C curve.

5.4.2. Psychological law of Assumptions:

Keynes's Law is based on the following assumptions:

1. It assumes a Constant Psychological and Institutional Complex:

This law is based on the assumption that the psychological and institutional complexes influencing consumption expenditure remain constant. Such complexes are income distribution, tastes, habits, social customs, price movements, population growth, etc. In the short run, they do not change and consumption depends on income alone. The constancy of these complexes is the fundamental cause of the stable consumption function.

2. It assumes the Existence of Normal Conditions:

The law holds well under normal conditions. If, however, the economy is faced with abnormal and extraordinary circumstances like war, revolution or hyperinflation, the law will not operate. People may spend the whole of increased income on consumption.

3. It assumes the Existence of a Laissez-faire Capitalist Economy:

The law operates in a rich capitalist economy where there is no government intervention. People should be free to spend increased income. In the case of regulation of private enterprise and consumption expenditures by the state, the law breaks down. Thus the law is inoperative in socialist or state controlled and regulated economies. Professor Kurihara opines that "Keynes's law based on these assumptions may be regarded as a rough approximation to the actual macro-behaviour of free consumers in the normal short period."

5.4.3. IMPLICATIONS OR IMPORTANCE OF KEYNES'S LAW OF CONSUMPTION FUNCTION:

Keynes's psychological law has important implications which in fact point towards the importance of the consumption function because the latter is based on the former. The following are its implications:

1. Invalidates Say's Law:

Say's Law states that supply creates its own demand. Therefore, there cannot be general overproduction or general unemployment. Keynes's psychological law invalidates Say's Law because as income increases, consumption also increases but by a smaller amount. In other words, all that is produced (income) is not taken off the market (spent), as income increases. Thus supply fails to create its own demand. Rather it exceeds demand and leads to general overproduction and glut of commodities in the market. As a result, producers stop production and there is mass unemployment.

2. Need for State Intervention:

As a corollary to the above, the psychological law highlights the need for state intervention. Say's Law is based on the existence of laissez-faire policy and its refutation implies that the economic system is not self-adjusting. So when consumption does not increase by the full increment of income and consequently there is general overproduction and mass unemployment, the necessity of state intervention arises in the economy to avert general overproduction and unemployment through public policy.

3. Crucial Importance of Investment:

Keynes's psychological law stresses the vital point that people fail to spend on consumption the full increment of income. This tendency creates a gap between income and consumption which can only be filled by either increased investment or consumption. If either of them fails to rise, output and employment will inevitably fall. Since the consumption function is stable in the short-run, the gap between income and consumption can only be filled by an increase in investment. Thus the psychological law emphasises the crucial role of investment in Keynes's theory. It is the inadequacy of investment which results in unemployment and logically, the remedy to overcome unemployment is increase in investment.

4. Existence of Underemployment Equilibrium:

Keynes's notion of underemployment equilibrium is also based on the psychological law of consumption. The point of effective demand which determines the equilibrium level of employment is not of full employment but of underemployment because consumers do not spend the full increment of their income on consumption and there remains a deficiency in aggregate demand. Full employment equilibrium level can however, be reached if the state increases investment to match the gap between income and consumption.

5. Declining Tendency of the Marginal Efficiency of Capital:

The psychological law also points towards the tendency of declining marginal efficiency of capital in a laissez-faire economy. When income increases and consumption does not increase to the same extent, there is a fall in demand for consumer goods. This results in glut of commodities in the market. The producers will reduce production which will, in turn, bring a decline in the demand for capital goods and hence in the expected rate of profit and business expectations. It implies a decline in the marginal efficiency of capital. It is not possible to arrest this process of declining tendency of marginal efficiency of capital unless the propensity to consume rises. But such a possibility can exist only in the long run when the psychological law of consumption does not hold good.

6. Danger of Permanent Over-saving or Under-investment Gap:

Keynes's psychological law points out that there is always a danger of an over-saving or under-investment gap appearing in the capitalist economy because as people become rich the gap between income and consumption widens. This long-run tendency of increase in saving and fall in investment is characterised as secular stagnation. When people are rich, their propensity to consume is low and they save more. This implies low demand which leads to decline in investment. Thus the tendency is for secular stagnation in the economy.

7. Unique Nature of Income Propagation:

The fact that the entire increased income is not spent on consumption explains the multiplier theory. The multiplier theory or the process of income

propagation tells that when an initial injection of investment is made in the economy, it leads to smaller successive increments of income. This is due to the fact that people do not spend their full increment of income on consumption. In fact, the value of multiplier is derived from the marginal propensity to consume, i.e., Multiplier = 1—1/MPC. The higher the MPC, the higher the value of the multiplier, and vice versa.

8. Explanation of the Turning Points of the Business Cycles:

This law explains the turning points of a business cycle. Before the economy reaches the full employment level, the downturn starts because people fail to spend the full increment of their income on consumption. This leads to fall in demand, overproduction, unemployment and decline in the marginal efficiency of capital.

5.5. DETERMINANTS OF THE CONSUMPTION FUNCTION:

Keynes mentions two principal factors which influence the consumption function and determine its slope and position. They are (i) the subjective factors, and (ii) the objective factors. The subjective factors are endogenous or internal to the economic system. They include psychological characteristics of human nature, social practices and institutions and social arrangements. They "are unlikely to undergo a material change over a short period of time except in abnormal or revolutionary circumstances." They, therefore, determine the slope and position of the C curve which is fairly stable in the short-run. The objective factors are exogenous or external to the economic system. They may, therefore, undergo rapid changes and may cause marked shifts in the consumption function (i.e., the C curve).

The subjective and objective factors are discussed below:

5.5.1. Subjective Factors:

Keynes's subjective factors basically underlie and determine the form (i.e., slope and position) of the consumption function. The subjective factors are the psychological characteristics of human nature, social practices and institutions, especially the behaviour patterns of business concerns with respect to wage and dividend payments and retained earnings, and social

arrangements affecting the distribution of income. There are two motives of subjective factors: individual and business.

1. Individual Motives:

First, there are eight motives "which lead individuals to refrain from spending out of their incomes."

They are:

- The desire to build reserves for unforeseen contingencies;
- The desire to provide for anticipated future needs, i.e., old age, sickness, etc.;
- The desire to enjoy and enlarged future income by way of interest and appreciation;
- The desire to enjoy a gradually increasing expenditure in order to improve the standard of living;
- The desire to enjoy a sense of independence and power to do things;
- The desire to secure a "masse de manoeuver" to carry out speculative or business projects;
- The desire to bequeath a fortune;
- The desire to satisfy a pure miserly instinct.

2. Business Motives:

The subjective factors are also influenced by the behaviour of business corporations and governments.

Keynes lists four motives for accumulation on their part:

- Enterprise, the desire to do big things and to expand;
- Liquidity, the desire to meet emergencies and difficulties successfully;
- Income raise the desire to secure large income and to show successful management;
- Financial prudence, the desire to provide adequate financial resources against depreciation and obsolescence, and to discharge debt.
- These factors remain constant during the short-run and keep the consumption function stable.

5.5.2. Objective Factors:

The following objective factors are given by Keynes.

1. Changes in the Wage Level:

If the wage rate rises, the consumption function shifts upward. The workers having a high propensity to consume spend more out of their increased income and this tends to shift the C curve upward. If, however, the rise in the wage rate is accompanied by a more than proportionate rise in the price level, the real wage rate will fall and it will tend to shift the C curve downward. A cut in the wage rate will also reduce the consumption function of the community due to a fall in income, employment and output. This will shift the curve downward.

2. Windfall Gains or Losses:

Unexpected changes in the stock market leading to gains or losses tend to shift the consumption function upward or downward. For instance, the phenomenal windfall gains due to the stock-market boom in the American economy after 1925 led to a rise in the consumption spending of the stock-holders by roughly in proportion to the increased income and as a result the consumption function shifted upward. Similarly, unexpected losses in the stock market lead to the downward shifting of the C curve.

3. Changes in the Fiscal Policy:

Changes in fiscal policy in the form of taxation and public expenditure affect the consumption function. Heavy commodity taxation adversely affects the consumption function by reducing the disposable income of the people. This is what actually happened during the Second World War when the consumption function shifted downward due to heavy indirect taxation, rationing and price controls. On the other hand, the policy of progressive taxation along with that of public expenditure on welfare programmes tends to shift the consumption function upward by altering the distribution of income.

4. Changes in Expectations:

Changes in future expectations also affect the propensity to consume. If a war is expected in the near future, people start hoarding durable and semi-durable commodities in anticipation of future scarcity and rising prices. As a result, people buy much in excess of their current needs and the consumption function shifts upward. On the contrary, if it is expected that prices are likely to fall in the future, people would buy only those things which

are very essential. It will lead to a fall in consumption demand and to a downward shift of the consumption function.

5. Changes in the Rate of Interest:

Substantial changes in the market rate of interest may influence the consumption function indirectly. There are several ways in which the rate of interest may affect the consumption function. A rise in rate of interest will lead to a fall in the price of bonds, thereby tending to discourage the propensity to consume of the bond-holders. It may also have the effect of substituting one type of assets for another. People may be encouraged to save rather than invest in bonds. In case they are buying durable consumer goods like refrigerators, scooters, etc. on hire-purchase system they will tend to postpone their purchases when the rate of interest rises.

They will have to pay more in installments and thus their consumption function will shift downward. Keynes wrote, 'Over a long period, substantial changes in the rate of interest probably tend to modify social habits considerably. Besides, these five factors, Keynes also listed changes in accounting practice with respect to depreciation. This factor has been rejected by Hansen who opines that "it is not a factor which can be thought to change violently in the short-run and it was a mistake for Keynes to include it here." However, we add some of the other objective factors listed by Keynes's followers.

6. Financial Policies of Corporations:

Financial policies of corporations with regard to income retention, dividend payments and reinvestments tend to affect the consumption function in several ways. If corporations keep more money in the form of reserves, dividend payments to shareholders will be less, this will have the effect of reducing the income of the shareholders and the consumption function will shift downward.

7. Holding of Liquid Assets:

The amount of liquid assets in the form of cash balances, savings and government bonds in the hands of consumers also influence the consumption function. If people hold larger liquid assets they will have a tendency to spend more out of their current income and the propensity to consume will move

upward, and vice versa. Pigou was of the view that with a cut in money wage, prices fall and the real value of such assets increases. This tends to shift the consumption function upward. This is called the "Pigou Effect."

8. The Distribution of Income:

The distribution of income in the community also determines the shape of the consumption function. If there are large disparities in income distribution between the rich and the poor, the consumption function is low because the rich have a low propensity to consume and the poor with a very low income are unable to spend more on consumption.

If through progressive taxation and other fiscal measures, the inequalities of income and wealth are reduced, the consumption function will shift upward because with the increase in the income of the poor their consumption expenditure will increase more than the reduction in the expenditure of the rich. "Moreover, if the distribution of income is significantly altered for political or humanitarian reasons, consumer habits themselves may undergo such changes as to cause the position or shape of the entire consumption function to vary perceptibly."

9. Attitude toward Saving:

The consumption function is also influenced by people's attitude toward saving. If they value future consumption more than present consumption, they will tend to save more and the consumption function will shift downward. This tendency may be reinforced by the state through compulsory life insurance, provident fund and other social insurance schemes to keep the consumption function low. In a high-saving economy, the consumption function is low.

10. Duesenberry Hypothesis:

James Duesenberry has propounded a relative income hypothesis affecting the consumption function. The first part of this hypothesis relates to the 'demonstration effect.' There is a tendency in human beings not only to keep up with the Joneses but also to surpass the Joneses, that is, the tendency is to strive constantly toward a higher consumption level and to emulate the consumption patterns of one's rich neighbours and even to surpass them.

Thus consumption preferences are interdependent. The second part is the 'past peak of income' hypothesis which explains the short-run fluctuations in consumption. Once the community reaches a particular income level and standard of living, it is reluctant to come down to a lower level of consumption during a recession. Consumption is sustained by the reduction in current saving and vice versa. So there is no shift in the consumption function during the short-run. There is simply an upward-downward movement on the same consumption function when income rises or falls during the short- run.

We may conclude with Professor Hansen "that except for quite abnormal or revolutionary changes in certain objective factors…shifts in the 'propensity to consume out of a given income' are not likely to be of more than secondary importance."

5.6. THEORIES OF CONSUMPTION FUNCTION

In the post war period several economists empirically tested the relationship between income and consumption. They made use of both cross sectional data and time series data in this connection. Cross sectional data showed that rich households had a smaller average propensity curve than the poor ones. The three most important theories of consumption are as follows: 1. Relative Income Theory of Consumption 2. Life Cycle Theory of Consumption 3. Permanent Income Theory of Consumption 4. Absolute income hypothesis.

1. ABSOLUTE INCOME HYPOTHESIS:

Keynes' consumption function has come to be known as the 'absolute income hypothesis' or theory. His statement of the relationship between income and consumption was based on the 'fundamental psychological law'. He said that consumption is a stable function of current income (to be more specific, current disposable income—income after tax payment). Because of the operation of the 'psychological law', his consumption function is such that $0 < MPC < 1$ and $MPC < APC$. Thus, a non-proportional relationship (i.e., $APC > MPC$) between consumption and income exists in the Keynesian absolute income hypothesis. His consumption function may be rewritten here with the form $C = a + bY$, where $a > 0$ and $0 < b < 1$. It may be added that all the characteristics of

Keynes' consumption function are based not on any empirical observation, but on 'fundamental psychological law', i.e., experience and intuition.

(i) Consumption Function in the Light of Empirical Observations:

Meanwhile, attempts were made by the empirically-oriented economists in the late 1930s and early 1940s for testing the conclusions made in the Keynesian consumption function.

(ii) Short Run Budget Data and Cyclical Data:

Let us consider first the budget studies data or cross-sectional data of a cross section of the population and then time-series data. The first set of evidence came from budget studies for the years 1935-36 and 1941-42. These budget studies seemed consistent with the Keynes' own conclusion on consumption-income relationship. The time-series data of the USA for the years 1929-44 also gave reasonably good support to the Keynesian theoretical consumption function. Since the time period covered is not long enough, this empirical consumption function derived from the time- series data for 1929-44 may be called 'cyclical' consumption function. Anyway, we may conclude now that these two sets of data that generated consumption function consistent with the Keynesian consumption equation, $C = a + bY$. Further, $0 < b < 1$ and AMC < APC.

(iii) Long Run Time-Series Data:

However, Simon Kuznets (the 1971 Nobel Prize winner in Economics) considered a long period covering 1869 to 1929. His data may be described as the long run or secular time-series data. This data indicated no long run change in consumption despite a very large increase in income during the said period. Thus, the long run historical data that generated long run or secular consumption function were inconsistent with the Keynesian consumption function.

From Kuznets' data what is obtained is that:

(a) There is no autonomous consumption, i.e., 'a' term of the consumption function and

(b) A proportional long run consumption function in which APC and MPC are not different. In other words, the long run consumption function equation is $C = bY$.

As a = 0, the long run consumption function is one in which APC does not change over time and MPC = APC at all levels of income as contrasted to the short run non-proportional (MPC < APC) consumption-income relationship. Being proportional, the long run consumption function starts form the origin while a non-proportional short run consumption function starts from point above the origin. Keynes, in fact, was concerned with the long run situation. But what is baffling and puzzling to us that the empirical studies suggest two different consumption functions a non-proportional cross-section function and a proportional long run time-series function.

2. RELATIVE INCOME HYPOTHESIS:

Studies in consumption then were directed to resolve the apparent conflict and inconsistencies between Keynes' absolute income hypothesis and observations made by Simon Kuznets. Former hypothesis says that in the short run MPC < APC, while Kuznets' observations say that MPC = APC in the long run.

One of the earliest attempts to offer a resolution of the conflict between short run and long run consumption functions was the 'relative income hypothesis' was propounded by S. Duesenberry in 1949. Duesenberry believed that the basic consumption function was long run and proportional. This means that average fraction of income consumed does not change in the long run, but there may be variation between consumption and income within short run cycles.

Duesenberry is based on two hypothesis first is the relative income hypothesis and second is the past peak income hypothesis. Duesenberry first hypothesis says that consumption depends not on the 'absolute' level of income but on the 'relative' income— income relative to the income of the society in which an individual lives. It is the relative position in the income distribution among families' influences consumption decisions of individuals.

A household's consumption is determined by the income and expenditure pattern of his neighbours. There is a tendency on the part of the people to imitate or emulate the consumption standards maintained

by their neighbours. Specifically, people with relatively low incomes attempt to 'keep up with the Joneses'—they consume more and save less. This imitative or emulative nature of consumption has been described by Duesenberry as the "demonstration effect."

The outcome of this hypothesis is that the individuals' APC depends on his relative position in income distribution. Families with relatively high incomes experience lower APCs and families with relatively low incomes experience high APCs. If, on the other hand, income distribution is relatively constant (i.e., keeping each families relative position unchanged while incomes of all families rise). Duesenberry then argues that APC will not change.

Thus, in the aggregate we get a proportional relationship between aggregate income and aggregate consumption. Note MPC = APC. Hence the relative income hypothesis says that there is no apparent conflict between the results of cross-sectional budget studies and the long run aggregate time-series data. In terms of the second hypothesis short run cyclical behaviour of the Duesenberry's aggregate consumption function can be explained. Duesenberry hypothesised that the present consumption of the families is influenced not just by current incomes but also by the levels of past peak incomes, i.e., $C = f(Y_{ri}, Y_{pi})$, where Y_{ri} is the relative income and Y_{pi} is the peak income.

This hypothesis says that consumption spending of families is largely motivated by the habitual behavioural pattern. It current incomes rise, households tend to consume more but slowly. This is because of the relatively low habitual consumption patterns and people adjust their consumption standards established by the previous peak income slowly to their present rising income levels.

On other hand, if current incomes decline these households do not immediately reduce their consumption as they find if difficult to reduce their consumption established by the previous peak income. Thus, during depression consumption rises as a fraction of income and during prosperity consumption does increase slowly as a fraction of income. This hypothesis thus generates a non-proportional consumption function.

Duesenberry explanation of short run and long run consumption function and then, finally, reconciliation between these two types of consumption function can now be demonstrated in terms of Fig. 3.39. Cyclical rise and fall in income levels produce a non-proportional consumption-income relationship, labelled as C_{SR}. In the long run as such fluctuations of income levels are get smoothened, one gets a proportional consumption-income relationship, labelled as C_{LR}.

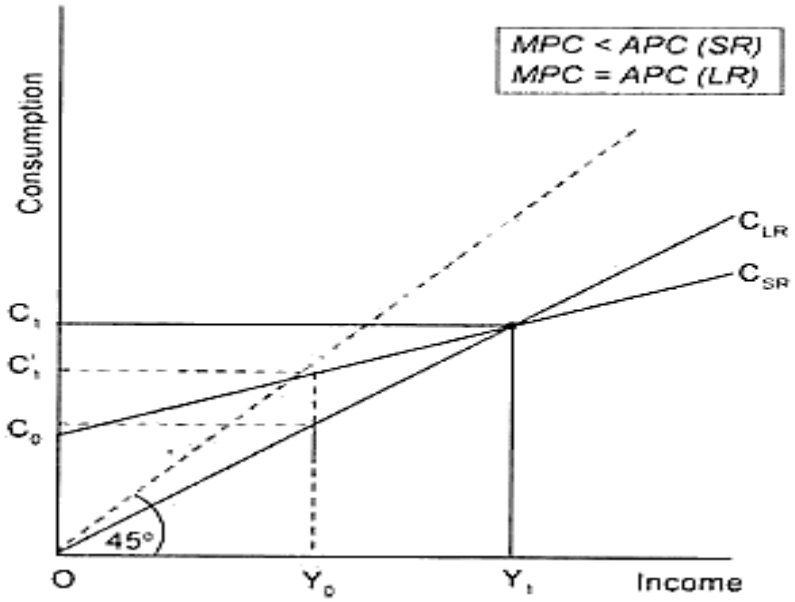

Fig.5.4. Dusenberry Consumption Function

As national income rises consumption grows along the long run consumption, C_{LR}. Note that at income OY_0 aggregate consumption is OC_0. As income increases to OY_1, consumption rises to OC_1. This means a constant APC consequent upon a steady growth of national income. Now, let us assume that recession occurs leading to a fall in income level to OY_0 from the previously attained peak income of OY_1. Duesenberry second hypothesis now comes into operation: households will maintain the previous consumption level what they enjoyed at the past peak income level. That means, they hesitate in reducing their consumption standards along the C_{LR}. Consumption will not decline to OC_0, but to OC'_1 ($> OC_0$) at income OY_0. At this income level, APC will be higher than what it was at OY_1 and the MPC will be lower.

If income rises consequent upon economic recovery, consumption rises along C_{SR} since people try to maintain their habitual or accustomed

consumption standards influenced by previous peak income. Once OY_1 level of income is reached consumption would then move along C_{LR}. Thus, the short run consumption is subject to what Duesenberry called 'the ratchet effect'. It ratchets up following an increase in income levels, but it does not fall back downward in response to income declines.

Demonstration Effect:

By emphasising relative income as a determinant of consumption, the relative income hypothesis suggests that individuals or households try to imitate or copy the consumption levels of their neighbours or other families in a particular community. This is called demonstration effect or Duesenberry effect. Two things follows from this. First, the average propensity to consume does not fall.

This is because if incomes of all families increase in the same proportion, distribution of relative incomes would remain unchanged and therefore the proportion of consumption expenditure to income which depends on relative income will remain constant.

Secondly, a family with a given income would devote more of his income to consumption if it is living in a community in which that income is regarded as relatively low because of the working of demonstration effect. On the other hand, a family will spend a lower proportion of its income if it is living in a community in which that income is considered as relatively high because demonstration effect will not be present in this case.

For example, the recent studies of household expenditure made in India reveal that the families with a given income, say Rs. 5000 per month spend a larger proportion of their income on consumption if they live in urban areas as compared to their counterparts in rural areas. The higher propensity to consume of families living in urban areas is due to the working of demonstration effect where families with relatively higher income reside whose higher consumption standards tempt others in lower income brackets to consume more.

Ratchet Effect:

The other significant part of Duesenberry's relative income hypothesis is that it suggests that when income of individuals or households falls, their

consumption expenditure does not fall much. This is often called a ratchet effect. This is because, according to Duesenberry, the people try to maintain their consumption at the highest level attained earlier. This is partly due to the demonstration effect explained above. People do not want to show to their neighbours that they no longer afford to maintain their high standard of living. Further, this is also partly due to the fact that they become accustomed to their previous higher level of consumption and it is quite hard and difficult to reduce their consumption expenditure when their income has fallen. They maintain their earlier consumption level by reducing their savings. Therefore, the fall in their income, as during the period of recession or depression, does not result in decrease in consumption expenditure very much as one would conclude from family budget studies.

3. PERMANENT INCOME HYPOTHESIS:

Another attempt to reconcile three sets of apparently contradictory data (cross-sectional data or budget studies data, cyclical or short run time-series data and Kuznets' long run time-series data) was made by Nobel Prize winning Economist, Milton Friedman in 1957. Like Duesenberry relative income hypothesis, Friedman's hypothesis holds that the basic relationship between consumption and income is proportional.

But consumption, according to Friedman, depends neither on 'absolute' income, nor on 'relative' income but on 'permanent' income, based on expected future income. Thus, he finds a relationship between consumption and permanent income. His hypothesis is then described as the 'permanent income hypothesis' (henceforth PIH). In PIH, the relationship between permanent consumption and permanent income is shown.

Friedman divides the current measured income (i.e., income actually received) into two: permanent income (Y_p) and transitory income (Y_t). Thus, $Y = Y_p + Y_t$. Permanent income may be regarded as 'the mean income', determined by the expected or anticipated income to be received over a long period of time. On the other hand, transitory income consists of unexpected or unanticipated or windfall rise or fall in income (e.g., income

received from lottery or race). Similarly, he distinguishes between permanent consumption (C_p) and transistory consumption (C_t). Transistory consumption may be regarded as the unanticipated spending (e.g., unexpected illness). Thus, measured consumption is the sum of permanent and transitory components of consumption. That is, $C = C_p + C_t$. Friedman's basic argument is that permanent consumption depends on permanent income. The basic relationship of PIH is that permanent consumption is proportional to permanent income that exhibits a fairly constant APC. That is, $C = kY_p$ where k is constant and equal to APC and MPC.

While reaching the above conclusion, Friedman assumes that there is no correlation between Y_p and Y_t, between Y_t and C_t and between C_p and C_t. That is $RY_t . Y_p = RY_t . C_t = RC_t . Cp = 0$. Since Y_t is uncorrected with Y_p, it then follows that a high (or low) permanent income is not correlated with a high (or low) transitory income. For the entire group of households from all income groups transitory incomes (both positive and negative) would cancel each over out so that average transitory income would be equal to zero. This is also true for transitory components of consumption. Thus, for all the families taken together the average transitory income and average transitory consumption are zero, that is, $Y_t = C_t = 0$ where Y and C are the average values. Now it follows that $Y = Y_p$ and $C = C_p$

Let us consider some families, rather than the average of all families, with above-average measured incomes. This happens because these families had enjoyed unexpected incomes thereby making transitory incomes positive and $Y_p < Y$. Similarly, for a sample of families with below-average measured in come, transitory incomes become negative and $Y_p > Y$. Now, we are in a position to resolve the apparent conflict between the Cross-section and the long run time-series data to show a stable permanent relationship between permanent consumption and permanent income. The line $C_p = kY_p$ in Fig 5.5 shows the proportional relationship between permanent consumption and permanent income. This line cuts the C_{SR} line at point L that corresponds to the average measured income

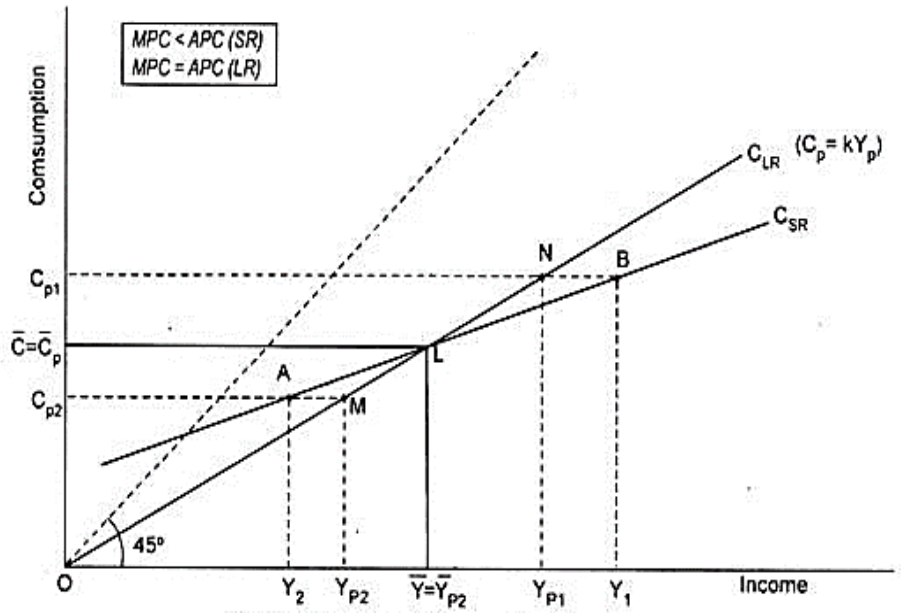

Fig.5.5. Friedman Consumption Function

of the population at which $Y_t = 0$. This average measured income produces average measured and permanent consumption, C_p.

Let us first consider a sample group of population having an average income above the population average. For this population group, transistory income is positive. The horizontal difference between the short run and long run consumption functions (points N and B and points M and A) describes the transitory income. Measured income equals permanent income at that point at which these two consumption functions intersect, i.e., point L in the figure where transitory income in zero. For a sample group with average income above the national average measured income (Y_1) exceeds permanent income (Y_{P1}). At (C_{P1}) level of consumption (i.e., point B) average measured income for this sample group exceeds permanent income, Y_{P1}. This group thus now has a positive average transitory income.

Next, we consider another sample group of population whose average measured income is less than the national average. For this sample group, transitory income component is negative. At C_{p2} level of consumption (i.e., point A lying on the C_{SR}) average measured income falls short of permanent income, Y_{p2}. Now joining points A and B we obtain a cross- section consumption function, labelled as C_{SR}. This consumption function gives an MPC that has a value less than long run proportional consumption

function, $C_p = kY_p$. Thus, in the short run, Friedman's hypothesis yields a consumption function similar to the Keynesian one, that is, MPC < APC. However, over time as the economy grows transitory components reduce to zero for the society as a whole. So the measured consumption and measured income values are permanent consumption and permanent income. By joining points M, L and N we obtain a long run proportional consumption function that relates permanent consumption with the permanent income. On this line, APC is fairly constant, that is, APC = MPC.

Conclusion:

Permanent income hypothesis is similar to life cycle hypothesis and differs only in details. Like the life cycle hypothesis, permanent income hypothesis can explain the puzzle about the relationship between consumption and income, namely, whereas in the long-run time series data, consumption- income ratio (i.e., APC) is constant, in the short run it declines with the increase in income as we have seen above. The permanent income hypothesis is quite consistent with the constancy of APC in the long run and its variation in the short run.

Permanent income hypothesis is also consistent with the evidence from the cross-sectional budget studies that high income families have low average propensity to consume than that of low- income families. A sample of high income families at a given time is likely to contain a relatively larger number of families who are having positive transitory increase in incomes. Since the consumption depends on permanent income, the average propensity to consume computed as the ratio of consumption to measured income [APC = C/Y^m]

Where $Y^m=Y^P+ Y^t$ will be relatively low. On the other hand, a sample of families with low income at a given time would contain a relatively larger number of families experiencing negative transitory incomes and therefore in their case the average propensity to consume estimated as $C/Y^p + Y^t$ will be relatively high. Further, by laying stress on changes in rate of interest and the wealth or assets held by the people and desire to add to one's wealth as important determinants of consumption and savings, Friedman's permanent income

hypothesis has made an important contribution to the theory of consumption and saving.

4. Life Cycle Theory of Consumption:

An important post-Keynesian theory of consumption has been put forward by Modigliani and Ando which is known as life cycle theory. According to life cycle theory, the consumption in any period is not the function of current income of that period but of the whole lifetime expected income. Thus, in life cycle hypothesis the individual is assumed to plan a pattern of consumption expenditure based on expected income in their entire lifetime. It is further assumed that individual maintains a more or less constant or slightly increasing level of consumption.

However, this level of consumption is limited by his expectations of lifetime income. A typical individual in this theory in his early years of life spends on consumption either by borrowing from others or spending the assets bequeathed from his parents. It is in his main working years of his lifetime that he consumes less than the income he earns and therefore makes net positive savings. He invests these savings in assets, that is, accumulates wealth which he consumes in the future years. In his lifetime after retirement he again dis-saves, that is, consumes more than his income in these later years of his life but is able to maintain or even slightly increase his consumption in the lifetime after retirement.

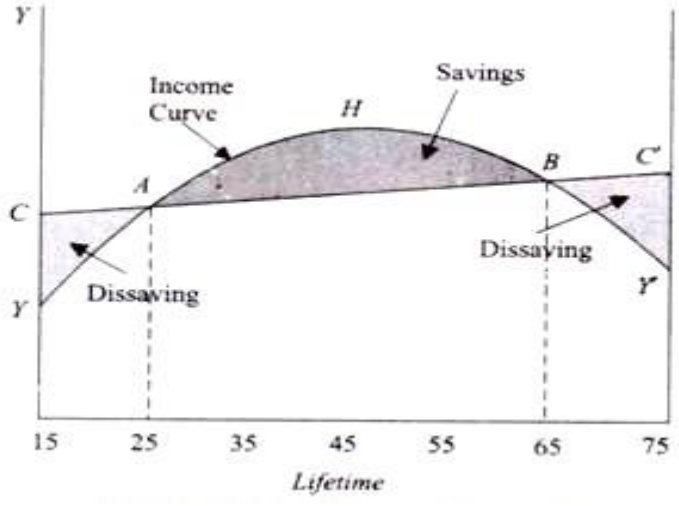

Fig.5.6. Life cycle theory of consumption

Life cycle hypothesis has been depicted in Fig. 5.6. It is assumed that a typical individual knows exactly at what age he will die. In Fig. 5.6 it is taken that

the individual would die at the age of 75 years. That is, years 75 is his expected lifetime. It is further assumed in the life cycle theory that net savings in the entire lifetime is zero, that is, the savings done by the individual in his working years of his life is equal to the dis savings made by him in his early years of life before he is able to earn income as well as the dis savings which he makes after retirement.

It is also assumed for the sake of simplicity that interest paid on his assets is zero. The curve YY shows income pattern of the whole life-time of the individual whereas CC' is the curve of consumption which is assumed to be slightly increasing as the individual grows old. It is assumed that our individual enters into labour force (i.e., working life) at the age of 15 years. It will be noticed from Figure that up to the age of 25 years his income, though increasing, is less than his consumption, that is, he will be dissaving during the first 13 years of his working life. Beyond the age of 25 or point A on the income and consumption curves and upto the age of 65 years his income exceeds his consumption, that is, he will be saving during this period of his working life. With these savings he will build up assets or wealth. He may use these savings or wealth to pay off his debt incurred by him in the early stage of his working life. Another important motive of his savings and building up assets or wealth is to provide for his consumption after retirement when his income drops below his level of consumption.

It will be observed from the Fig. 5.6 that beyond point B (that is, after retirement at 65 years) his current income falls short of his consumption and therefore he once again dis saves. He would be using his accumulated assets or wealth from his earlier working years to meet the dis savings after retirement at the age of 65. It is important to note that we assume that he does not intend to leave any assets for his children. Given this assumption, his net savings over his lifetime will be zero.

Therefore, in Figure his savings during the period when he earns more than his consumption expenditure, that is, the shaded area AHB will be equal to the two areas of dissavings, CYA + BC'Y'. Thus he dies leaving behind no assets or wealth. He has planned his consumption expenditure over the years that his net savings at the time of death are zero. However, this assumption

can be relaxed if he wishes to leave some assets or wealth for his children. Some important conclusions follow from the life cycle theory of consumption. The fundamental idea of the life-cycle hypothesis is that people make their consumption plans for their entire lifetime and further that they make their lifetime consumption plans on the basis of their expectations of lifetime income. Thus in the life cycle model consumption is not a mere function of current income but on the expected lifetime income. Besides, in life cycle theory the wealth presently held by individuals also affects their consumption. How the consumption of an individual in a period depends on these factors highlighted by life cycle theory can be expressed in the form of an equation. To do so let us consider an individual of a given age with an additional life expectancy of T years and intends to retire from working after serving for N years more. Then suppose that in the current period and thereafter in his life span the individual will consume a constant proportion, 1/T of his life-time income in equal installments per year. Thus $C_t = 1/T\ (Y_{Lt}+(N-1)Y^eL+W_t)$

Where

C_t = the consumption expenditure in the current period t

Y_{Lt} = Income earned from doing some labour in the current period t

N-1 = remaining future years of doing some labour or work

Y^e_L – the average annual income expected to be earned over N-1 years for which individual plans to do some work

W_t = the presently held wealth or assets

It will be observed from the above equation that life cycle hypothesis suggests that consumption in any period does not depend only on current income but also on expected income over his entire working years. Besides, consumption in any period also depends on his presently owned wealth or assets which are built up during the prime working years of one's life when income exceeds savings.

The general consumption behaviour as suggested by Ando-Modigliani life cycle hypothesis can be expressed in the following functional form:

$C_t = b_1Y_{Lt}+b_2Y^e_L+b_3W_t$

where

C_t = Consumption expenditure in a period t.

Y_{Lt} = Income earned from doing some labour in the current period t.

Y^e_L = the average annual income expected to be earned from labour during the further years of working life.

W_t – wealth currently owned

b_1 represents marginal propensity to consume out of current income

b_2 is marginal propensity to consume out of expected lifetime income, and

b_3 is the marginal propensity to consume out of wealth.

It is significant to note that consumption would not be much responsive to changes in current income (i.e., Y_{Lt}) unless it also changes expected future lifetime income (Y^e_L). A one time or temporary change in income, say, by Rs. 1000, will affect consumption in the same way as the increase in wealth. The consumption of these Rs. 1000 will be spread over the entire lifetime in a planned consumption flow per period. With 50 years of future life, increase of Rs. 1000 of transient or temporary income will raise the consumption by 1000/50 = Rs. 20 per period. This implies that consumption function curve will shift above.

A permanent increase in income that is expected to persist throughout the working years, which implies that in future expected lifetime income also rises, will produce a large effect on consumption in each of the remaining period of one's lifetime. Further, the increase in wealth will shift the consumption function upward, that is, will increase the intercept term of the consumption function.

To estimate behaviour of the consumer on the basis of life cycle hypothesis, one is required to make some assumptions how people form their expectations regarding labour income over their life time. In the study of consumption function for the United States, Ando and Modigliani made the assumption that the expected future labour income is simply a multiple of current labour income. Thus, according to this assumption, $Y^e_L = \beta Y_{LT}$

Where β is a multiple of current labour income. This assumption implies that people revise their expected labour income of future by a certain multiple of the change in current labour income. With this assumption, aggregate consumption function for the community can be expressed as under

$C_1 = (b_1 + b_2\beta)\ Y_{LT} + b_3 W_t$

This function has been estimated taking time-series data for the U.S.A. and the following estimates have been obtained:

$C_t = 0.72\ Y_{LT} + 0.06W$

According to these estimates, if current labour income increases by Rs. 100 along with assumed effect on expected future income, consumption will increase by Rs. 72 per period. Besides, the increase in wealth by Rs. 100 will raise the consumption expenditure by Rs. 6. It therefore follows that according to life cycle hypothesis the relationship between income and consumption is non-proportional, increase in labour income by Rs. 100 crore leads to increase in consumption by Rs. 72. Further, the increase in wealth will shift the consumption function upward, that is, will increase the intercept term of the consumption function.

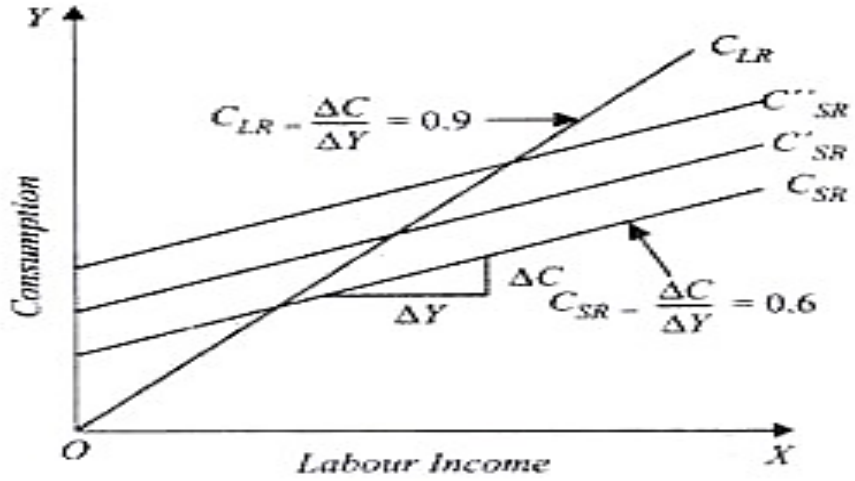

Fig.5.7. Life cycle consumption and income: Short run and long run

The consumption function based on life cycle hypothesis is illustrated in Fig. 5.7 where along the X-axis we measure disposable income and along the Y-axis the consumption expenditure. The short-run consumption function is shown by the curve C_{SR} which has a slope of 0.6 which is the marginal propensity to consume out of labour income in the short run.

This short- run consumption function is linear and has an intercept term indicating that average propensity to consume declines as labour income increases and MPC < APC. The intercept of the short-run consumption function measures the effect of wealth on consumption. Since wealth increases over a period of time due to savings in the prime working years, the

short-run consumption function will be shifting upward, that is, the intercept of the short-run consumption function will be increasing as wealth grows in the long run. Overtime the shift in the short-run consumption function may trace a series of points on a long-run consumption function C_{LR} passing through the origin.

Since the ratios of wealth and labour income are constant over time, the life cycle consumption function is in accord with the conclusion arrived at by Kuznets from the long-run time series data that the long-run consumption function is proportional, with average propensity to consume (APC or MPC) remaining constant and being equal to nearly 0.9. These facts are quite consistent with the long-run consumption function of life cycle hypothesis and thus help in resolving the Kuznets puzzle.

Life cycle hypothesis also explains the non-proportional relationship between consumption and income found in the cross-sectional family budget-studies. It has been found in these studies that high income families consume a smaller proportion of their income, that is, their average propensity to consume (APC) is relatively lower than those of the low-income families. This can be easily explained by life-cycle hypothesis. Suppose we choose a random sample of families from the population and rank them according to their incomes.

The families with higher incomes are expected to be middle-aged income earners who are in the prime working years of their lifetime and therefore earn more than they consume (i.e., their APC will be relatively lower). On the other hand, the families with lower incomes are likely to have relatively high proportion of new entrants into the labour force and the old people who have retired and, as seen above, they consume more than their current income and their APC being quite high pushes up the APC of the low income families.

Shortcomings:

Although life cycle theory has provided an explanation of various puzzles about consumption function, it is not without critics, Gardner Ackley has criticized the assumption of life cycle hypothesis that in making consumption plans, households have “a definite and conscious vision.”

According to Ackley, the possession of this vision on the part of households sounds unrealistic. Further, according to him, to assume that a household has complete knowledge of "family's future size, including the life expectancy of each member, entire lifetime profile of income of each member, the extent of credit available in the future, future emergencies, opportunities and social pressure which have a bearing on consumption spending" is quite unrealistic.

Life cycle theory has also been criticized that it fails to recognize the importance of liquidity constraints in determining the response of consumption to income. According to critics, even if a household has a concrete vision of future income, the opportunities to borrow from the capital markets for quite a long period on the basis of expected future income, as has been visualised by life cycle hypothesis, are very little. This creates the liquidity constraints for deciding about consumption plans. As a result, the consumption becomes highly responsive to current income which is quite contrary to the life cycle hypothesis.

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