University of Jammu

Syllabus

B.A. SEMESTER-III **(Course Code: UECTC: 301)**

Title: Principles of Macro Economics- I **Credits-6**

Preamble: This course aims to introduce the students to the basic concepts of Macroeconomics. Macroeconomics deals with functioning of the economy as a whole, including how the economy's total output a goods and services and employment of resources is determined and what causes these totals to fluctuate This paper has been designed to make the undergraduate students aware of the basic theoretical framework underlying the field of macroeconomics.

UNIT I : Introduction

Macroeconomics: Meaning. Nature and Scope, Importance, Macroeconomic variables-goods and money market, Importance and limitations of Macroeconomics, Difference between microeconomics and macroeconomics.

UNIT II : National Income Accounting

National Income, Meaning , definitions and concepts of GDP and others associated with National Income:, Methods of measuring National Income; Practical and Conceptual difficulties in the measurement of National Income; Uses of National Income; Nominal GNP and Real GNP, Limitations of GDP concepts as a measure of social welfare.

UNIT III: Theory of National Income Determination - Classical and Keynesian

Classical theory of output and employment-says law of market, Keynesian criticism of Classical theory, Keynesian theory of Income and employment Principle of Effective demand.

UNIT IV : National Income Determination

Determination of National Income in Two sector, with Government-Three Sector Model: Determination of National Income in an open economy-four sector model; Investment Multiplier and its limitations.

UNIT V : Theories of Consumption and Investment

Keynesian theory of Consumption: Absolute Income Hypothesis, Duesenberry's Relative Income hypothesis, Friedman's Permanent Income hypothesis, Ando-Modigliani's Life Cycle Hypothesis, Investment Function-Autonomous & Induced Investment, Marginal Efficiency of capital.

UNIT -1

INTRODUCTION TO MACROECONOMICS

MEANING OF MACRO ECONOMICS

Macro Economics is defined as the branch of Economics which studies activities including economic issues and economic problems at the level of an economy as a whole. It focus on Macroeconomic variables like aggregate demand, aggregate supply, general price level, national income and output etc. The term macro is driven from the greek word 'Makros which means large. Thus macroeconomic means economics of large dimensions, referring to the economy as a whole. Macro economics is concerned with the economy as a whole or large segments of it.

Modern Macro economic theory is the outcome of the whole body of literature that has grown out of the income and employment theory initiated by J.M. Keynes in his General theory of Employment interest and money, published in 1936.

Definitions of Macro Economics

It is the words of Samuel. A. Morley. "Macro economics is the study of key economic magnitudes, such as general price level, income and employment measured over the entire economy"

'According to Prof. Rosalind Levacie "Macro economics is concerned with the determination of the broad aggregates, in the economy such as national product. employment, the general price level and the balance of payments."

Richard G. Lipsey, list out the problems of macro economics as broad areas of macroeconomics:

(i) Problems relating to the determination and fluctuations of level employment and income.

(ii) Problems relating to the determination and changes of level of prices.

(iii) Problems relating to fluctuations in the general level of money wages and real wages.

(iv) Problems relating to the allocation of resources between the production of consumer goods and the production of capital goods.

(v) Problems relating to the rate of growth of production capacity of the economy.

(vi) Problems concerning the relation between international trade and the levels of employment, prices and the level of income in the economy.

NATURE AND SCOPE/IMPORTANCE OF MACRO ECONOMICS

Macro Economics is the study of aggregates or averages covering the entire economy, such as total employment, national income, national output, total investment, total consumption, total savings, aggregate supply, aggregate demand, general price level and wage rate etc. it is aggregative economics which examines the interrelations among the various aggregates, their determination and causes of fluctuations in them.

Prof. Ackley defines Macro Economics as "Macro Economics deals with economic affairs 'in the large, it concerns the overall dimensions of economic life. It looks at the total size and shape and functioning of the elephant of economic experience, rather than working of articulation or dimensions of the individual parts. It studies the character of the forest,independently of the tress which compose it."

Macro Economics is of much theoretical and practical importance in understanding, the problem and policy making in an economy. The scope of the Macro economics means the areas of study under macroeconomics. It means issues or problems or parameters of Economics that are included in the macroeconomics.

The scope and nature of macro economics can be explained in the following points:

1. To Understand the working of the Economy: The study of macro economics analysis is of the paramount importance in getting us an Idea about the functioning of an economic system as a whole. It is essential for proper and accurate knowledge of aggregations, as such a large and complex economic system is impossible in term of numerous individual items, at the micro level

2. Understanding the Economic Policies: Macro Economics is extremely useful from the view point of the fiscal policy, Modern Governments, particularly, the underdeveloped economies are confronted with innumerable national problems. There are the problems of over population, inflation, balance of payments, general under production etc. these policies have emerged as central issues in macro economics.

3. Theory of Employment: Macroeconomics studies problems relating to employment and unemployment in the economy as a whole. It studies the different factors determining the level of employment, viz, affective demand, aggregate supply aggregate demand, aggregate consumptions aggregate investment and aggregate savings etc. which determines the level of employment in the economy.

4. Theory of National Income: The study of macro economics is very significant for evaluating the overall performance of the economy in terms of national income. This led to the construction of the data on national income. National income data help in anticipating the level of economic activity and to comprehend the distribution of income among different groups of people in the economy. It also studies the method of measurement of national income and social accounting.

5. Theory of Economic Growth: The theory of economic growth is also the subject matter of macro economics. Specifically macro economics study the growth problem of underdeveloped economies. Plans for the overall increase in national income, productivity, employment are framed and executed so as to raise the level of Economic growth and development of the economy as a whole.

6. Theory of Money and Monetary Problems: Macro economics also study the monetary problems of the economy. Frequent changes in the value of money, inflation or deflation, affect the economy adversely. They can be counteracted by adopting the suitable monetary, fiscal and direct control measures for the economy as a whole Macroeconomics study the functions of money and theories related to the demand and supply of money in the system. The system of banking and other financial institution is also the subject matter of the macroeconomics

7. Business Cycle: The economic activities always shows ups and down. They never shows a steady pattern of change for all the time to come. This cyclical movement of the is better known as the business cycle is a major macroeconomic issue and on important area of macroeconomic study

8. Understanding the Behaviour of Individual Units: For understanding the performance of individual units, the study of macro economics is imperative Demand for individual products depends upon aggregate demand in the economy. Unless the causes of deficiency in aggregate demand are analyzed it is not feasible to understand fully the grounds for a fall in the demand of

individual products. The reasons for increase in costs of a specific firm or industry cannot be analyzed without knowing the average cost conditions of the whole economy. Thus, the study of individual units is not possible without macro economics.

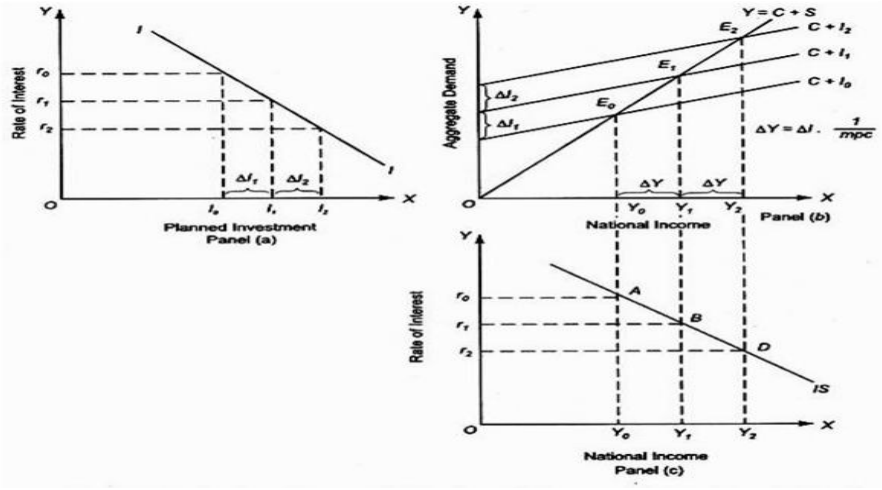
9. Budgetary deficit and Fiscal Policy: In the wake of privatization and globalization of the world economies budgetary deficit and related Fiscal Policy was emerged as a central issue of Macroeconomics.

GOODS MARKET EQUILIBRIUM: DERIVATION OF THE IS CURVE

The IS-LM curve model emphasises the interaction between the goods and money markets. The goods market is in equilibrium when aggregate demand is equal to income. The aggregate demand is determined by consumption demand and investment demand. In the Keynesian model of goods market equilibrium we also now introduce the rate of interest as an important determinant of investment. With this introduction of interest as a determinant of investment, the latter now becomes an endogenous variable in the model. When the rate of interest falls the level of investment increases and vice versa. Thus, changes in the rate of interest affect aggregate demand or aggregate expenditure by causing changes in the investment demand. When the rate of interest falls, it lowers the cost of investment projects and thereby raises the profitability of investment. The businessmen will therefore undertake greater investment at a lower rate of interest. The increase in investment demand will bring about increase in aggregate demand which in turn will raise the equilibrium level of income.

In the derivation of the IS curve we seek to find out the equilibrium level of national income as determined by the equilibrium in goods market by a level of investment determined by a given rate of interest. Thus IS curve relates different equilibrium levels of national income with various rates of interest. With a fall in the rate of interest, the planned investment will increase which will cause an upward shift in aggregate demand function (C + I) resulting in goods market equilibrium at a higher level of national income. The lower the rate of interest, the higher will be the equilibrium level of national income. Thus, the IS curve is the locus of those combinations of rate of interest and the level of national income at which goods market is in equilibrium. How the IS curve is derived is illustrated in Fig. . In panel (a) of Fig., the relationship between rate of interest and planned investment is depicted by the investment demand curve II. It will be seen from panel (a) that at rate of interest Or0the planned investment is equal to OI0. With OI0 as the

amount of planned investment, the aggregate demand curve is C + I0 which, as will be seen in panel (b) of Fig. equals aggregate output at OY0 level of national income. Therefore, in the panel (c) at the bottom of the Fig. , against rate of interest Or0, level of income equal to OY0has been plotted. Now, if the rate of interest falls to Or1, the planned investment by businessmen increases from OI0 to OI1 [see panel (a)]. With this increase in planned investment, the aggregate demand curve shifts upward to the new position C + II in panel (b), and the goods market is in equilibrium at OY1 level of national income. Thus, in panel (c) at the bottom of Fig. the level of national income OY1 is plotted against the rate of interest, Or1. With further lowering of the rate of interest to Or2, the planned investment increases to OI2 [see panel (a)]. With this further rise in planned investment the aggregate demand curve in panel (b) shifts upward to the new position C +I2 corresponding to which goods market is in equilibrium at OY2 level of income. Therefore, in panel (c) the equilibrium income OY2 is shown against the interest rate Or2. By joining points A, B, D representing various interest-income combinations at which goods market is in equilibrium we obtain the IS curve. It will be observed from Fig. that the IS curve is downward sloping (i.e., has a negative slope) which implies that when rate of interest declines, the equilibrium level of national income increases. Why does IS Curve Slope Downward? What accounts for the downward-sloping nature of the IS curve.



As seen above, the decline in the rate of interest brings about an increase in the planned investment expenditure. The increase in investment spending causes the aggregate demand curve to shift upward and therefore leads to the increase in the equilibrium level of national income. Thus, a lower rate of interest is associated with a higher level of national income and vice versa.

This makes the IS curve, which relates the level of income with the rate of interest, to slope downward. Thus, a lower rate of interest is associated with a higher level of national income and vice versa. This makes the IS curve, which relates the level of income with the rate of interest, to slope downward. Steepness of the IS curve depends on: (1) The elasticity of the investment demand curve, and (2) The size of the multiplier. The elasticity of investment demand signifies the degree of responsiveness of investment spending to the changes in the rate of interest. Suppose the investment demand is highly elastic or responsive to the changes in the rate of interest, then a given fall in the rate of interest will cause a large increase in investment demand which in turn will produce a large upward shift in the aggregate demand curve. A large upward shift in the aggregate demand curve will bring about a large expansion in the level of national income. Thus when investment demand is more elastic to the changes in the rate of interest, the investment demand curve will be relatively flat (or less steep).

Similarly, when investment demand is not very sensitive or elastic to the changes in the rate of interest, the IS curve will be relatively more steep. The steepness of the IS curve also depends on the magnitude of the multiplier. The value of multiplier depends on the marginal propensity to consume (mpc). It may be noted that the higher the marginal propensity to consume, the aggregate demand curve (C + I) will be more steep and the magnitude of multiplier will be large. In case of a higher marginal propensity to consume (mpc) and therefore a higher value of multiplier, a given increment in investment demand caused by a given fall in the rate of interest will help to bring about a greater increase in equilibrium level of income. Thus, the higher the value of multiplier, the greater will be the rise in equilibrium income produced by a given fall in the rate of interest and this makes the IS curve flatter.

On the other hand, the smaller the value of multiplier due to lower marginal propensity to consume, the smaller will be the increase in equilibrium level of income following a given increment in investment caused by a given fall in the rate of interest. Thus, in case of smaller size of multiplier the IS curve will be more steep. Shift in IS Curve: It is important to understand what determines the position of the IS curve and what causes shifts in it. It is the level of autonomous expenditure which determines the position of the IS curve and changes in the autonomous expenditure cause a shift in it. By autonomous expenditure we mean the expenditure, be it investment expenditure, the Government spending or consumption

expenditure, which does not depend on the level of income and the rate of interest. The government expenditure is an important type of autonomous expenditure. Note that the Government expenditure, which is determined by several factors as well as by the policies of the Government, does not depend on the level of income and the rate of interest.

Similarly, some consumption expenditure has to be made if individuals have to survive even by borrowing from others or by spending their savings made in the past year. Such consumption expenditure is a sort of autonomous expenditure and changes in it do not depend on the changes in income and rate of interest. Further, autonomous changes in investment can also occur. In the goods market equilibrium of the simple Keynesian model the investment expenditure is treated as autonomous or independent of the level of income and therefore does not vary as the level of income increases. However, in the complete Keynesian model, the investment spending is thought to be determined by the rate of interest along with marginal efficiency of investment. Following this complete Keynesian model, in the derivation of the IS curve we consider the level of investment and changes in it as determined by the rate of interest along with marginal efficiency of capital. However, there can be changes in investment spending autonomous or independent of the changes in rate of interest and the level of income. For instance, growing population requires more investment in house construction, school buildings, roads, etc., which does not depend on changes in level of income or rate of interest. Further, autonomous changes in investment spending can also take place when new innovations come about, that is, when there is progress in technology and new machines, equipment, tools etc. have to be built embodying the new technology.

Besides, Government expenditure is also of autonomous type as it does not depend on income and rate of interest in the economy. As is well known, government increases its expenditure for the purpose of promoting social welfare and accelerating economic growth. Increase in Government expenditure will cause a rightward shift in the IS curve.

MONEY MARKET EQUILIBRIUM: DERIVATION OF THE LM CURVE

The money market is the interaction among institutions through which money is supplied to individuals, firms, and other institutions that demand money. Money market equilibrium occurs at the interest rate at which the quantity of money demanded is equal to the quantity of money supplied.

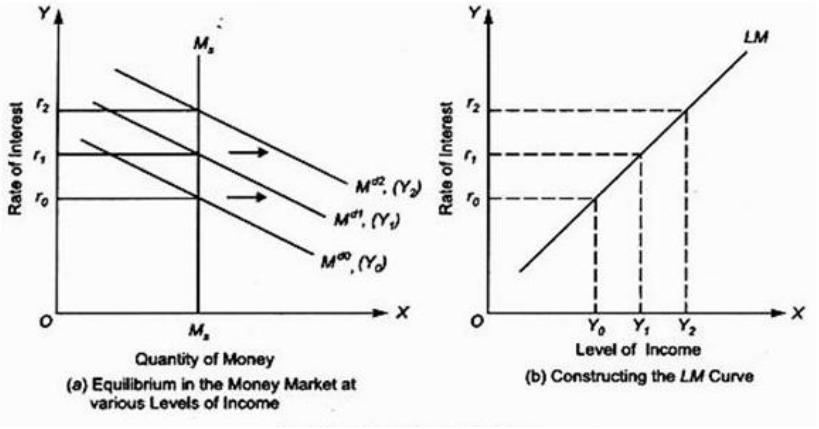
The LM curve can be derived from the Keynesian theory from its analysis of money market equilibrium. According to Keynes, demand for money to hold depends upon transactions motive and speculative motive. It is the money held for transactions motive which is a function of income. The greater the level of income, the greater the amount of money held for transactions motive and therefore higher the level of money demand curve.

The demand for money depends on the level of income because they have to finance their expenditure, that is, their transactions of buying goods and services. The demand for money also depends on the rate of interest which is the cost of holding money. This is because by holding money rather than lending it and buying other financial assets, one has to forgo interest.

Thus demand for money (Md) can be expressed as: Md = L(Y, r) where Md stands for demand for money, Y for real income and r for rate of interest.

Thus, we can draw a family of money demand curves at various levels of income. Now, the intersection of these various money demand curves corresponding to different income levels with the supply curve of money fixed by the monetary authority would gives us the LM curve.

The LM curve relates the level of income with the rate of interest which is determined by money-market equilibrium corresponding to different levels of demand for money. The LM curve tells what the various rates of interest will be (given the quantity of money and the family of demand curves for money) at different levels of income. But the money demand curve or what Keynes calls the liquidity preference curve alone rises. In Fig. (b) we measure income on the X-axis and plot the income level corresponding to the various interest rates determined at those income levels through money market equilibrium by the equality of demand for and the supply of money in Fig. (a).



Slope of LM Curve:

It will be noticed from Fig. (b) that the LM curve slopes upward to the right. This is because with higher levels of income, demand curve for money (Md) is higher and consequently the money- market equilibrium, that is, the equality of the given money supply with money demand curve occurs at a higher rate of interest. This implies that rate of interest varies directly with income. It is important to know the factors on which the slope of the LM curve depends. There are two factors on which the slope of the LM curve depends. First, the responsiveness of demand for money (i.e., liquidity preference) to the changes in income.

As the income increases, say from Y0 to Y1, the demand curve for money shifts from Md 0 to Md 1, that is, with an increase in income, demand for money would increase for being held for transactions motive, Md or L1 =f(Y). This extra demand for money would disturb the money market equilibrium and for the equilibrium to be restored the rate of interest will rise to the level where the given money supply curve intersects the new demand curve corresponding to the higher income level. It is worth noting that in the new equilibrium position, with the given stock of money supply, money held under the transactions motive will increase whereas the money held for speculative motive will decline. The greater the extent to which demand for money for transactions motive increases with the increase in income, the greater the decline in the supply of money available for speculative motive and, given the demand for money for speculative motive, the higher the rise in the rate of interest and consequently the steeper the LM curve, r = f (M2,

L2) where r is the rate of interest, M2 is the stock of money available for speculative motive and L2 is the money demand or liquidity preference function for speculative motive.

The second factor which determines the slope of the LM curve is the elasticity or responsiveness of demand for money (i.e., liquidity preference for speculative motive) to the changes in rate of interest. The lower the elasticity of liquidity preference for speculative motive with respect to the changes in the rate of interest, the steeper will be the LM curve. On the other hand, if the elasticity of liquidity preference (money demand function) to the changes in the rate of interest is high, the LM curve will be flatter or less steep. Shifts in the LM Curve: Another important thing to know about the IS-LM curve model is that what brings about shifts in the LM curve or, in other words, what determines the position of the LM curve. A LM curve is drawn by keeping the stock or money supply fixed. Therefore, when the money supply increases, given the money demand function, it will lower the rate of interest at the given level of income. This is because with income fixed, the rate of interest must fall so that demand for money for speculative and transactions motive rises to become equal to the greater money supply. This will cause the LM curve to shift outward to the right. The other factor which causes a shift in the LM curve is the change in liquidity preference (money demand function) for a given level of income. If the liquidity preference function for a given level of income shifts upward, this, given the stock of money, will lead to the rise in the rate of interest for a given level of income. This will bring about a shift in the LM curve to the left. It therefore follows from above that increase in the money demand function causes the LM curve to shift to the left. Similarly, on the contrary, if the money demand function for a given level of income declines, it will lower the rate of interest for a given level of income and will therefore shift the LM curve to the right.

Essential Features: From our analysis of the LM curve, we arrive at its following essential features:

1. The LM curve is a schedule that describes the combinations of rate of interest and level of income at which money market is in equilibrium.

2. The LM curve slopes upward to the right.

3. The LM curve is flatter if the interest elasticity of demand for money is high. On the contrary, the LM curve is steep if the interest elasticity demand for money is low.

4. The LM curve shifts to the right when the stock of money supply is increased and it shifts to the left if the stock of money supply is reduced.

5. The LM curve shifts to the left if there is an increase in the money demand function which raises the quantity of money demanded at the given interest rate and income level. On the other hand, the LM curve shifts to the right if there is a decrease in the money demand function which lowers the amount of money demanded at given levels of interest rate and income.

DIFFERENCE BETWEEN MICRO AND MACRO ECONOMICS

The main differences between micro-economics and macro-economics can be explained with the help of the following points:

1. Difference in the Degree of Aggregation. Microeconomics differs from macroeconomics due to the difference of the degree of aggregation of economic elements. Macroeconomics studies the individual units of the economy like a firm on the contrary, macroeconomics deals with aggregates like national income and aggregate savings. It studies the problems of the economy as a whole.

2. Difference in Objectives. The objective of microeconomics is to study the principles, problems and policies concerning the optimum allocation of resources; on the contrary, macroeconomics studies the problems, policies and principles relating full employment of resources and growth of resources. In this way, both types of economic analysis differ from each other as they have different objectives.

3. Difference of Subject Matter. The subject matter of microeconomics deals with the determination of price, consumer's equilibrium; distribution and welfare, etc, On the other side, the subject matter of macroeconomics is full employment, national income, general price-level, trade cycles, economy growth, etc.

4. Method of Study. Another difference between the two types of economic analysis is regarding their methods of study. Laws of micro-economics are formulated by taking some assumptions. With the help of these assumptions, micro laws establish relationship between the causes and effects of economic phenomena. For example, the law of demand shows the inverse relationship between price and demand. But the law of applies only when its assumptions hold

good. These assumptions are: constant prices of other goods, no change in fashion, habit arid custom, etc. In this law, the effect of change in the prices of other goods is not taken into consideration. This method of study is known as "partial equilibrium analysis.

In macroeconomics, economic elements are categorized into aggregate units like aggregate demand, aggregate supply, total consumption, total investment, etc. The interdependence of these economic factors is also studied in macroeconomics. In other words, the total effect of an economic factor on the economy is taken into account in macro analysis. This method of study is called general equilibrium analysis'.

5. Macroeconomic Paradoxes. There are some economists like Prof. Boulding and Samuelson who pointed out the risks of the distinction between the two types of analysis. The set of errors arising in this distinction is known as 'macro economic paradoxes' or 'the fallacy of aggregation. It means that the act which is beneficial for an individual may disturb the working of the economy as a whole. In other words, the prescriptions which are virtues for individuals. become vices for the economy if applied. For example, if an individual saves, his family will be benefited. But if the whole society starts saving, it will reduce - consumption demand supply income, etc. In this way, higher saving by the people finally reduces the income of the people. The reason is that one man's expenditure is another man's income. If one person does not spend, he reduces the income of some other person. In this way, we have seen that micro decisions do not hold true for the economy as a whole. Such a macro paradox causes differences between micro and macroeconomic policy.

6. Different Assumptions. The two types of economic analysis are based upon different assumptions. Micro economics states its laws by assuming full employment, constant production and income. On the basis of these assumptions, microeconomics analyses how production and factors of production are allocated or distributed among different uses. On the contrary, macro-economics assumes how the factors of production are distributed. On the basis of the assumption of factor distribution, it explains how full employment can be achieved. In this way, both micro- and macroeconomics state their laws by taking different assumptions. So they differ from each other..

7. Difference of the Farces of Equilibrium. Microeconomics studies the equilibrium between the forces of individual demand and supply or market demand and supply. But macroeconomic

analysis deals with the equilibrium between the forces of demand and supply of the whole economy. Aggregate demand and supply of the economy are estimated in terms of money. So the aggregate demand and supply are related to the total income.

8. Mortal and Immortal Subjects. Microeconomics deals with individuals. And individuals are mortal. Man dies after passing some lifetime in the world. Therefore, the tool of microeconomics, i.e., man is mortal. On the contrary, macroeconomics is concerned with the aggregates. It studies the problems of the whole economy. The tool of its study is society. Society never ends. Men may come and men may go but the society remains forever. So macroeconomics studies the immortal society. This is another difference between the two.

LIMITATIONS OF MACROECONOMIC THEORY

Though macroeconomic theory is useful for various reasons, it also suffers from certain limitations. The limitations can be pointed out as below: Firstly, in macroeconomic theory we deal with aggregates and these aggregate entities are generally taken as homogeneous entities. But this is not true. If we look at the internal composition and structure of the aggregates we find that they are made up of heterogeneous elements. For example, when we take the concept of rate of interest we assume that there exists only one rate of interest throughout the economy. But this is not true. In practice there exist different rates of interest for different types of loans. We actually take the average rate of interest. But the average does not show the dispersion or variability of rates of interest.

Secondly, all aggregates are not useful. Only those aggregates which can be functionally related happen to be useful for the purpose of study.

Thirdly, in macroeconomic theory we formulate a model of the economy and discuss the functioning of the economy with the help of this model. The model is a theoretical construct which is based on a number of assumptions some of which are not realistic. Accordingly there exists a wide gap between the theoretical model and the reality. In many cases reality cannot be explained with the help of the model because the unrealistic nature of the assumptions.

Fourthly, the major part of the macroeconomic theory developed on the basis of the path-breaking works of Lord Keynes is applicable for a developed capitalist economy. It is not suitable for developing or underdeveloped economies Problems of developing countries are

different from those of developed countries. Hence the models built for developed countries cannot be suitable for the developing countries.

Fifthly, many proposition which are true for individual's on the basis of ceteris and paribus assumption are true for economy as a whole. The behaviour of an aggregate at the Macro Level cannot always be obtained from the generalization of the behaviour of the micro unit.

UNIT -2

NATIONAL INCOME ACCOUNTING

MEANING OF NATIONAL INCOME

By National Income we refers to the money value of all final goods and services produced by the normal residents of a country during on accounting year or National is some total of factor income earned by the normal resident of a country during the period of one year.

Two things need special focus from the above definitions of national income viz (a) final good and services and (b) normal residents of a country.

(a) By final value of goods and services mean only the final goods which have crossed the boundary line of production and are ready for use by their final users, are included in the estimation of National income. The intermediate goods which are still within the boundary line of the production and are purchased by one firm from another either for resale or for use as raw material do not constitute final goods.

The example of final goods, Bread and butter as used by the consumers and Tractors and harvastors, used by the farmers.

The example of intermediate goods are like a shirt purchased by firm X from firm Y for resale like and wood purchased by a carpenter (From a Timber merchant) for making chair are intermediate goods.

(b) Normal resident is said to a person or institutions who ordinarily resides in a country and whose centre of economic interest lies in that country. Normal resident, of a country includes citizen and institution of country who normally resides in that country and the citizen of other counties or nations who continue to live in a country beyond a period of one year and also the citizen of our country working in the rest of world in the international organization located our country. Contrary the foreigners who visit for traveling recreation. holidays medical treatment, studies conference etc are not consider as normal residents a country while estimating the national income.

Definitions of National Income

(1) According to Marshall, "The labour and capital of a country, acting upon its natural resources, produce annually a certain net aggregate of commodities, material and immaterial, including services of all kinds. The limiting word "net" is needed to provide for using up of raw and half-finished commodities and for the wearing out and depreciation of plant which is involved in production; all such waste must, of course, be deducted from the gross produce before the true or net income can be found. And net income due on account of foreign investments must be added in. This is the true net annual income or revenue of the country, or the national dividend."

(2) In the words of A.C. Pigou, 'The national dividend is that part of the objective income of the community including, of course, income derived from abroad, which can be measured in money."

(3) In the words of Prof. J.R. Hicks, "The national income consist of a collection of goods and services reduced to a common basis by being measured in terms of money"

(4) According to Irring Fisher, "The National or the devident consists solely of services as received by the ultimate consumer whether from their material or human environments. This a paino or over coat of this year is not the part of this year's income but on addition to the capital. Only his services rendered to me during this year by these things are income. Fishers definition is considered to be better the Marshall's and Pigou's definitions because Fisher provides on adequate concept of Economics Welfare which is dependent on consumption and consumption respondents one standard of living.

CONCEPTS OF GDP AND OTHERS ASSOCIATED WITH NATIONAL INCOME

1 Gross Domestic Product at Market Price (GDPmp)

2 Gross National Product at Market Price (GNPmp)

3. Net National Product at Market Price (MNPmp)

4. Net Domestic Product at Market Price (NDPmp)

5. Net Domestic Product at Factor Cost (NDPfc)

6. Gross Domestic Product at Factor Cost (GDPfc)

7. Net National Product at Factor Cost (NNPfc)

8. Gross National Product at Factor Cost (GNPfc)

9. National Disposable Income: Gross and Net Concepts

10. Factor Income from Net Domestic Product accruing to Private Sector

11. Private Income

12. Personal Income

13 Personal Disposable Income

Following is a brief description of these concepts / associates of National income

1. Gross Domestic Product at Market Price (GDPmp): Gross domestic product is the market value of the final goods and services produced within the domestic territory of a country during one year inclusive of depreciation. There are both resident as well as foreign producers within the domestic territory of a country. Gross domestic product includes the market value of the final goods and services produced by all such producers. The provision of depreciation is the part of the gross domestic product at Market Price or GDPmp.

2. Gross National Product at Market Price (GNPm):

Gross national product is not a domestic concept, it is a national concept. Here, we are to estimate national product of all the normal residents of a country, no matter in which part of the world they are. We are to be no longer confined to the domestic territory of a country. Also, we are not account for the product of non-resident firms in our domestic territory. Thus, gross national product is the market value of the final goods and services produced by normal residents of a country during the period of an accounting year.

GDPmp becomes GNPmp if net factors income from abroad is added to it.

Thus,

GDPmp+Net factors income from abroad = GNPmp

Net factor income from abroad is the difference between factor income (rent, interest, profit and wages) earned by our residents from rest of the world and factor income earned by non-residents within our country..

The, net factor income from abroad may be positive or negative.

If net factor income from abroad is positive, gross national product would be greater than gross domestic product. On the other hand, if net factor income from abroad is negative, gross national product would be less than the gross domestic product.

3. Net National Product at Market Price (NNP_{mp}): Net national product at market price measures the value of final goods and services produced by the normal residents of a country in an accounting year, after allowing for depreciation losses. We know, some capital goods are used up in the production process through normal wear and tear, obsolescence and accidental destruction live accidental or sudden break down of the machinery be deducted from GNPmp to arrives MNPmp. The cost to replace these capital goods is called depreciation or consumption of fixed capital.

NNPmp is estimated as the difference between GNPmp and depreciation..

Hence. GNPmp-Depreciation = NNPmp

4. Net Domestic Product at Market Price (NDPmp): Net domestic product at market price is the market value of the final goods and services produced within the domestic territory of a country, exclusive of depreciation or the consumption of fixed capital.

NDPmp is estimated as the difference between GDPmp and depreciation.

NDPmp =GDPmp-Depreciation

5. Net Domestic Income or Net Domestic Product at Factor Cost (NDPfc): Net domestic income is the sum total of factor income generated within the domestic territory of a country during an accounting year. It is briefly called 'domestic income'. It is equal to net domestic product at factor cost. Thus, domestic income- NDPfc

NDPfc differs from NDPmp as in the following equation :

NDPfc=NDPmp-Indirect taxes + Subsidies

Or

NDPfc=NDPmp-Net Indirect Taxes (NIT)

(NIT-Indirect taxes- Subsidies)

6. Gross Domestic Product at Factor Cost (GDPfc): Gross domestic product at factor cost is estimated as sum of the net value added by different producing units and the consumption of fixed capital. Since the net value added get distributed as income to the owners of factors of production, we can estimate GDPfc as sum of the domestic factor incomes and consumption of the fixed capital. Hence,

NDPfc+ Depreciation =GDPfc

7. Net National Product at Factor Cost (NNPfc) or National Income fixed capital consumption: Any 'domestic' concept becomes a 'national' concept if 'net factor income from abroad' is added. Accordingly, if 'net factor income from abroad' is added to NDPfc, it becomes NNPfc. Thus,

NDPfc+ Net Factor Income from Abroad = NNPfc

8. Gross National Product at Factor Cost (GNPfc): The Gross national product at factor cost is defined as sum total of the gross domestic product and net factor income from abroad i.e. income earned by normal residents of our country minus the incomes earned by foreign residents from one country.

NNPfc becomes GNPfc if depreciation is added to NNPfc . Thus,

GNPfc= NNPfc + Depreciation

Obviously,

GNPfc-Depreciation = NNPfc

9. **National Disposable Income:** National disposable income refers to the net income at market price available to a country for disposal. It is the sum total of national income (NNPfc), net indirect taxes and net current transfer from the rest of the world.

National Disposable Income =National Income + Net Indirect Taxes + Net Current Transfers from the Rest of the World Gross and Net Concepts of National Disposable Income

10. Private Income: Private income is the income of the private sector obtained from any source, productive or otherwise, and the retained income of the corporations.

Private income includes both factor income as well as transfer income. In order to obtain private income from national income, we add (i) Current transfer earnings from the government, (ii) Interest on national debt (iii) Net current transfers from the rest of the world, and deduct from national income, (i) Property and entrepreneurial income of the government departmental enterprises, (ii) Saving of non-departmental undertakings.

11. Personal Income: Personal income is the total of all current income received by households from all sources. It is, in fact, the sum total of all types of factor income actually received by the households and current transfers. Personal income includes the income actually received by the households. Some part of the profits is retained by the firms as undistributed profits, also called corporate saving. Also, some part of the profits is taxed by the government, called corporate profit tax. The principal difference between private income and personal income, therefore, is that while private income includes corporate saving and corporate tax, while personal income does not. Both these components (corporate savings and corporate tax) are not received by the households. Accordingly, these are deducted from private income to find out private personal income.

12. Personal Disposable Income: Personal disposable income is that part of personal income which the households can use the way they like. It is either spent or saved. It is calculated by deducting direct taxes and miscellaneous fees, fines, etc., paid by the individuals from their income.

LIMITATIONS OF GDP

There are many limitations to using GDP as a way to measure current income and production. Major ones as follows.

1. Changes in quality and the inclusion of new goods - higher quality and/or new products often replace older products. Many products, such as cars and medical devices, are of higher

quality and offer better features than what was available previously. Many consumer electronics, such as cell phones and DVD players, did not exist until recently.

2. Leisure human costs- GDP does not take into account leisure time, nor is consideration given to how hard people work to produce output. Also, jobs are now safer and less physically strenuous than they were in the past. Because GDP does not take these factors into account, changes in real income could not be understated.

3. Underground economy - Barter and cash transactions that take place outside of recorded marketplaces are referred to as the underground economy and are not included in GDP statistics. These activities are sometimes legal ones that are undertaken so as to avoid taxes and sometimes they are outright illegal acts, such as trafficking in illegal drugs.

4 Harmful Side Effects - Economic "bads", such as pollution, are not included in GDP statistics. While no subtractions to GDP are made for their harmful effects, market transactions made in an effort to correct the bad effects are added to GDP.

5. Non-Market Production - Goods and services produced but not exchanged for money, known as "nonmarket production", are not measured, even though they have value. For instance, if you grow your own food, the value of that food will not be included in GDP. If you decide to watch TV instead of growing your own food and now have to purchase it, then the value of your food will be included in GDP.

MEASUREMENT OF NATIONAL INCOME

There are mainly three methods of measuring national income because national income can be estimated at, from three different aspects as total output, total income total expenditure. All these three are flows in the economy per period of time. They are three names for the same thing which is the aggregate output. As Cairncross has written, "The national income can be looked at in any one of the three ways as the national income measured by adding up everybody's output....; as the national outlay measured by adding up the value of all the things that people buy and adding in their saving."

Since the volume of flows in a particular period of time must equal, we can closely define a fundamental accounting identity which applies in a hypothetical economy in a particular period. It is

National Income+ Depreciation = Gross National Product = Expenditure on Gross National product

It is clear from this fundamental identity that the measure of national income must give us the same result whichever the way we adopt. We explain the three methods of measuring national income below. The three methods measure the same flow. When production takes places, factors of production are paid. There is an income flow and an output flow. Output is purchased by people through expenditures which give rise to income. Thus income, output and expenditure are the three facets of the same coin.

PRODUCT METHOD OR VALUE ADDED METHOD

Product Method or Value Added Method is that Method, which measures the national income by estimating the contribution of each producing enterprise to production in the domestic territory of the country in an accounting year this method is also called as the industrial origin method or net output method. The entire output of final goods and services is multiplied by their respective market prices to find out the gross national product. The gross national product may be arrived at by adding up the values imparted to the intermediate goods and services during different process of production. Whether we employ the final products method or the 'value added' method, the total money-value of the gross national product would be the same. From the gross national product so estimated, we have to deduct the gross depreciation of equipment and machinery involved in the process of production to arrive at the country's national income.

Value-added method measures the contribution of each producing enterprise in the domestic territory of the country. This method involves the following steps: (a) Identifying the producing enterprise and classifying them into wise sectors according to their activities, (b) estimating net value added by each producing enterprise as well as each industrial sector and adding up the net value added by all the sectors.

Precautions regarding Product Method

Following precautions must be taken into account while using the products method:

(1) Value of the sale and purchase of second hand goods is not included in value added.

(2) Commission earned on account of the sale and purchase of second hand goods is included in the estimation of value added.

(3) Own account production of goods of the producing units is taken into account. while estimating value added.

(4) Value of intermediate goods is not included in the estimation of value added.

(5) Imputed value of production for self-consumption is taken into account.

(6) Imputed rent on the owner occupied house is also taken into account.

(7) Services for self-consumption is not considered while estimating value added.

INCOME METHOD

According to this method, the incomes accruing to all the factors of production during the process of production are aggregated together to arrive at the national income of the country.

Income method: classification of factor income:

The factor income seen broadly classified as under :

(i) Compensation of employees: It includes (a) wages & salaries in cash (b) payment in kind (c) employees contribution to the social security scheme (d) pension on retirement.

(ii) Operating surplus : It refer to as income from property and entrepreneurship as (a) Rent (b) Interest (c) profit is further divided into Dividends Corporate profit tax and undistributed profit.

(iii) Mixed income. Mixed income refers to the income of the self employed person, using the own labour, labour land capital and entrepreneurship to produce goods and services in the economy.

This is known as national income at factor cost. As is well known, the various factors of production are paid remuneration for their services rendered by them in production. These payments are known as factor payments. They represent the costs to the producers. But for the owners of the factors of production, they constitute factor-incomes which have to be aggregated to estimate the national income of the country. Thus according to this method, the national product is obtained by adding up the factor-incomes accruing to the concerned factors during the process of production. Sum of the factors income generated within the domestic territory of a country is called NDPfc simply domestic income, National from it is found by adding not factor income from abroad to NDPfc. As NDPfc+ Net factor income from abroad

Precautions while using Income Method

The following precautions are to be taken while income method:

(1) Transfer earnings like old age pensions, unemployment allowances, scholarships, pocket expenses, etc. should not be included in national income. (2) Income from illegal activities like smuggling, theft, gambling, etc. should not be included in national income.

(3) Sale proceeds of second hand goods like second hand car, second hand house,second hand TV sets are not included in national income. (4) The sale proceeds of shares and bonds are not included in national income.

(5) Windfall gains, like lotteries and capital gains should not be included as there is no value addition corresponding to windfall gains.

(6) Imputed rent of owner occupied houses is included in national income.

(7) Imputed value of production of goods for self-consumption should be included but value of self-consumed services should not be included.

(8) Indirect taxes like sales tax, excise duty, etc. tend to increase the market price of goods and services. These are included in the estimation of national income at market price but are not to be included while estimating national income at factor cost.

(9) Corporate tax, dividends and undistributed profits are all the components of corporate profits. Once profit is included in the estimation of national income, any of these components should not be separately added, separately .

(10) Income tax is paid out of compensation of employees. It should not be added separately added in the estimation of national income.

EXPENDITURE METHOD

Expenditure is equal to gross domestic product at the market price (GDPMP) this is also called as income disposal method or consumption and investment method. Labour gets wages, land gets rent, capital gets interest and entrepreneur gets profit. The factor incomes of all the owners of factors of production form the subject-matter of cultivation of national income by expenditure method.

The final expenditure is broadly classified into the following four categories (1) consumer final expenditure (c) (ii) Govt. final expenditure (G) (iii) Investment expenditure (I)) and (iv) Net export (X-M)

Private final expenditure (C) refers to the expenditure on final goods and services by the consumers, households, and non-profit making institutions, serving society (live Help age) it includes:

Precautions while using Expenditure Method

The following precautions are to be taken while using expenditure method:

(1) Final Expenditure is to be taken into account to avoid error of double counting.

(2) The intermediate expenditure is not included in the calculation of national income.

(3) Expenditure on second hand goods is not included.

(4) Expenditure on shares and bonds is not included in total expenditure, as these are mere paper claims and are not related to the flow of final goods and services. Such expenditures do not cause any value addition.

(5) Expenditure on transfer payments by the government is not included in total expenditure, eg old age pension, scholarship, etc. Because transfer payments do not cause any value addition in the economy.

Conclusion

In view of the above we may say that the three methods of estimating the national income given above need different types of approaches to calculate the national income Product method requires a census of manufactures and agricultural output. Income method can use personal taxes data and the financial statements of different, enterprises Expenditure method requires extensive family-budget data. In developed economies such data are easily collected. Some countries, therefore, use all the three methods and obtain national income estimates consistent with one another

PRACTICAL AND CONCEPTUAL DIFFICULTIES IN MEASUREMENT BY NATIONAL INCOME

Although all methods are used almost in all countries of the world to calculate national income, yet the national income calculation is a complex affair and is beset with the following difficulties.

1. Difficulty of Defining the Nation. The first and foremost difficulty in the way of measuring National Income is the defining of nations in National Income. There is the difficulty of defining 'nation' in national income. National income doesn't only included income produced within the country, but also income earned in other countries, by way of shipping charges, interest insurance and banking, minus any payments made to foreign countries. Therefore, the definition of nation goes beyond the political boundaries

2. Non-Marketed Services. Another Important difficulty in the measurement of National income is that which kind of goods and services included in the National Income? Commodities and services having money value are included in the national income but there are numbers of goods and services which may not have corresponding flow of money payments. Services performed for love, kindness and mercy and not for money have an economic value but have no money value. The difficulty is whether these services should be included in national income and how to measure their money value. For example, a paid maid servants services are included in the national income but later when she marries the master, she is not paid any more, through she continues to perform the same services. There is, thus, a reduction in the national income.

3. Choice of Method. There are different methods of measuring National Income. It becomes difficult for the investigator/statistician which method to be used in the estimation of national income. It is, however, preferred to use all methods simultaneously depending upon the availability of data or statistics.

4. There is Little of Occupational Specialization. Another difficulty in the way of measuring national Income is that there is little of occupational specialization on the part of the people in underdeveloped countries and developing nation. Most of people take up more than one activity at a time to earn their livelihood. It becomes difficult to collect information about their incomes, etc. For example, the small farmers in India not only do farming, but also engaged themselves in other works to the industrial cities during. The slack season to supplement their meagre earnings from agriculture.

5. Which Stage to Choose. Regarding the stage of economic activity at which national income be calculated, it is agreed that any stage of economic activities line production, consumption and distribution may be adopted depending upon the function of the national income estimate is expected to discharge. If the aim is to show the economic progress and power of the economy, then the production stage would be more suitable, if the aim is to measure the welfare of individuals, then consumption stage would be more useful.

6. Double Counting. Another difficulty is of double counting usually associated with the inventory method. Double counting implies the possibility of a commodity like raw material or labour being included in national income more than once, e.g., a farmer sells wheat worth rupees one hundred to a mill-owner. The mill owner' further sells the wheat flour to a wholesale dealer, who further sells it to a retailer and who in turn sells it to consumer, if we calculate it at every stage, its money value will increase the eight hundred rupees but actually the increase in national income has been to the extent of two hundred rupees only. The best way to avoid this difficulty is to calculate only the value of allgoods and service that entered into final consumptions.

7.Transfer Payment. Transfer Payment is another difficulty in calculating the National Income. Individual gets pension, scholarship, unemployment allowance and interest on public loans, but whether these should be included in national income is a difficult problem to avoid this difficulty these payments needs to be deducted from national income.

8. Price Changes. Another difficulty in calculating national income is the price changes. When the price level in the country rises the national income also shows an increase even though the production might have fallen. On the other hand, with a fall in price level, the national income shows decline even though the production might have gone up. Thus, due to price changes the national income cannot be adequately measured.

9. Self-Consumed, Bartered Production Self-consumed and bartered production is also one of the important difficulty in the measurement of national income. A substantial part of the produce is not brought to the market to be exchanged with the measuring rod of money. It is either consumed directly by the producers or is exchanged for other goods and services. Only rough estimates are made about the part of the produce. This difficulty is mostly in rural areas in agricultural sector of the economy.

10. No Systematic Accounts. Majority of the producers do not keep any accounts of their produce because most of them are illiterate. They mostly produce for self-consumption, not for the market. Thus, the national income estimates are based only on guess work.

11. Inadequate and Unreliable Data. Another important difficulty in the way of calculating National Income is the Inadequate and Unreliable data. The available statistics in these countries are not only inadequate but also torreliable. For example, statistics pertaining to agriculture in India are not complete. We have no reliable estimates of production costs in Indian. agriculture. There are no statistics worth the name for small-scale and medium industries.

12. The Existence of A Large Non-monetized Sector. The another important difficulty in the calculating of National Income is the existence of a large non monetized sector in underdeveloped countries which makes the computation of national income difficult. A substantial part of the agricultural output in these countries does not reach the market at all. Either it is consumed at home by the agriculturists themselves or is exchanged for other goods and services in the village. This presents several difficulties in the calculation of income.

13. Illiteracy and Ignorance. The majority of the small producers in the underdeveloped countries are illiterate and ignorant, and are not in a position to keep any account of their productive activities. So they cannot give to the investigator information about the quantity or

value of their output. Inevitably. an element of guesswork enters into the assessment of income or output in large sectors of the economy.

USES OR IMPORTANCE OF NATIONAL INCOME

National Income is of great importance for the economy of a country. In these days the National Income data are regarded as the accounts of the economy. The importance of national income can be explained by the following points:

(1) Estimation of National Income. National income accounting helps to show. the level of production in the economy and the level of income of the people in the country.

(2) Structure of the Economy. National income accounting gives us the knowledge about the structure of the economy. We come to know how different sectors of the economy are interdependent and performing.

(3) Relative Significance of the Production Sectors. The estimation of national income gives us the knowledge about the relative significance of the production sectors of the economy, Production sectors of the economy include primary, secondary and tertiary sectors. National income accounting offers techniques of estimating output across these sectors. Accordingly, relative significance of these sectors is studied as contributor in the national income.

(4) Factoral Distribution of Income. National income accounting gives us the knowledge about the distribution of national income in terms of rent, interest, profit and wages to owners of factors of production. It also facilitate to show. the relative significance of the factors of production in the economy.

(5) Inter-regional and International Comparison. Another importance of national income accounting is that it facilitates a comparison across different regions of a country and across different countries of the world.

(6) Formulation of Policies. With the help of Estimation of national income we can formulate the policies for the economic growth and economic development of the country: Govt. on the basis of national income data framed several economics problems for the smooth functioning and progress of the economy is a whole.

(7) Economic Planning. For economic planning, the national income accounting is of great significance. For economic planning, it is very important that the data pertaining to a country's gross income, output, saving, consumption from different sources should be available. Without these economic planning is impossible.

(8) Research Scholars of Economies. The national income accounting is very useful for the research scholars of economics. The research scholars of economics make use of the various data of the country's input, output, income, saving, consumption, investment, employment etc., which are obtained from social accounts for their research purposes.

(9) Indicator of Economic Progress. Another great importance of national income accounting is that it is an indicator of economic progress. The economic welfare of the country is directly with the increase in its national income. Hence, national income presents clear economic picture of the economy.

(10) Distribution of National Income. Distribution of national income is also one of the importance of national income accounting. National income data help 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.

(11) Inflationary and Deflationary Gaps. With the help of national income accounting we are in a position to get a idea about the inflationary and deflationary gaps. Hence, for accurate and deflationary policies, we need regular estimates of national income.

(12) Budgetary Policies. With the help of the national income accounting we can formulate the budgetary policies. Modern governments try to prepare their budgets within the frame work of national income data.

(13) National Expenditure. With help of national income accounting we can get an idea how national expenditure is divided between consumption expenditure and investment expenditure

(14) Standard of Living. With the help of national income accounting we can compare the standards of living of people in different countries and of people living in the same country at different times.

(15) International Sphere. National income studies are very important in the international sphere. These estimates help us to fix the burden of international payments equitable amongst different nations. These are also enable us to determine the subscriptions and quotas of international organization like U.N.O., I.M.F., I.B.R.D. etc.

(16) Defence and Development. National income accounting gives us the knowledge to divide the national product between defence and development purposes. With the help of these estimates we can easily know how much can be spared for war by the civilian population.

(17) Public Sector. With the help of national income accounting we can get an idea about the relative roles of public and private sectors in the economy.

NOMINAL GNP AND REAL GNP (INCOME)

Difference Between Nominal GNP and Real GNP.

Gross Domestic Product or GDP refers to the economic value of goods and services produced within the nation's boundaries, in a particular financial year plus income earned by foreign residents locally less income earned abroad by country's residents. When the GNP is estimated at current prices, it exhibits Nominal GNP, whereas when Real GNP is measured at constant prices or with the price of base year it is called as real GNP

Both Nominal and real GNP are considered as a financial metric for evaluating country's economic growth and development However, the confusion still exists that which one is better indicates the country's progress.

The basic differences between Nominal and Real GNP are discussed as under.

1. Nominal Gross National Product refers to the monetary value of all goods and services produced during the year, within the geographical limits of the country. The economic worth of all goods and services produced in a given year, adjusted as per changes in the general price level is known as Real Gross National Product

2. Nominal GNP is the GNP without the effects of inflation or deflation whereas you can arrive at Real GNP, only after giving effects of inflation or deflation.

3. Nominal GNP reflects current GNP at current prices. Conversely, Real GNP reflects current GNP at past (base) year prices.

4. The value of nominal GNP is greater than the value of real GNP because while calculating it, the figure of inflation is deducted from the total GNP.

5. With the help of Nominal GNP, you can make comparisons between different quarters of the same financial year. Unlike Real GNP, in which comparison of various financial years can be made easily because by removing the figure of inflation, the comparison is made only between the outputs produced.

6. Real GNP shows the actual picture of the economic growth of the country, which is not with the case of Nominal GNP.

Conclusion

These two exhibits the country's financial soundness, whereby Real GNP is given preference over Nominal GNP, it makes the comparison easy for between different financial years. On the other end, Nominal GNP provides a better perspective for comparing different economies at current price level.

UNIT - 3

THEORY OF NATIONAL INCOME DETERMINATION- CLASSICAL AND KEYNESIAN

SAY'S LAW OF MARKET

Say's Law of market lies at the centre of the classical notion of full employment J.B. Say, a French economist of the 19th century, introduced a theory of markets, according to which "supply creates its own demand."

In a barter economy, Say's Law simply holds good that supply creates its own demand, because goods will be produced either for self consumption or for the direct exchange to get something else. This is merely a tautology. The neo-classicists, however considered that Say's Law had wider application in a monetary economy. In a monetary economy, the money costs of the goods produced by the firms are actually paid out as incomes to the households for their factor services rendered, so the households get enough money to buy the goods supplied. This means that the supply of a product through the process of production generates the necessary income (earned by the factor of production in the form of wages, interest, rent and profits) to demand the goods produced. By this method, an equivalent demand is created in accordance with supply. According to Say, the main source of demand is the flow of factor incomes generated from the process of production itself. Any productive process has generally two effects:

(1) Due to the employment of factors of production in the process, an income stream is generated in the economy on account of the payment of remuneration to the factors of production; and

(ii) a certain output results which is supplied to the market.

Thus, according to Say's Law, additional output creates additional incomes, which creates an equal amount of extra expenditures Therefore, every product produced generates equivalent amount of purchasing power (income) in the economy which ultimately leads to its sale. In short, a new production process, by paying out income to its employed factors. generates demand at the same time as it adds to supply. Thus, every increase in production soon justifies itself by a matching increase in demand. Then, by doubling production, the producer would invariably double sales too.

In his Principles of Political Economy, J. S. Mill provides his version of Say's Law as follows:

"What constitutes the means of payment for commodities is simply commodities. Each person's means of paying for the production of other people consists of those which he himself possesses. Should we suddenly double the productive powers of the country, we should double the supply of commodities in every market; but we should by the same stroke, double the purchasing power, Every-body would bring a double demand as well as supply, everybody would be able to buy twice as much, because everyone would have twice as much to offer in exchange.

According to Say's Law, as every additional supply creates an additional demand, there can be no general overproduction. It stresses that aggregate supply always equals aggregate demand. In other words, while individual goods can be over-produced, the supply need not equal demand in a single market. But it will be absorbed by the economy as a whole. At the same time, while general over-production was considered impossible according to Say's Law, it also denied the possibility of a deficiency in aggregate demand. Similarly, it also denied the possibility of general unemployment. For, if resources are less than fully employed, there are incentives to expand production as entrepreneurs always strive for maximization of profits

ASSUMPTION OF THE SAY'S LAW OF MARKET

Say's law of market is based on the following assumptions:

1. There is optimum allocation of resources.

2. Commodity prices and factor prices are in perfect equilibrium.

3. There is free enterprise economy.

4. There is no government intervention in the economic activities. The government follows laissez-faire policy to facilitate automatic adjustment and smooth working of the market mechanism in the capitalist economic system.

5. The size of the market has no limits. Thus, there is automatic expansion of the market with an increase in output offered for sale.

6. The free market economy and its working of price mechanism provide duc scope to labour supply and the rising population also stimulate capital formation.

7. The circular flow of money is regular and continuous without any leakages.

8. Since all savings are automatically invested, saving always equal investment, Savings-investment equality is the basic condition of equilibrium in the economy. It is maintained by interest flexibility.

IMPLICATIONS OF SAY'S LAW MARKET

The Say's Law of markets implies that:

1. In the long run, free economy automatically attains equilibrium at full employment level.

2. There is automatic adjustment when supply creates its own demand. Increase in supply will meet its own demand in the process of the functioning of a free capitalist economy. Hence, there is no need for the government to intervene. On the contrary, any government interference in the economic field comes in direct conflict with the self-adjusting mechanism of the Say's Law of markets.

3. Since supply creates its own demand automatically there is no possibility of any general over-production. Thus, Say's Law is a denial of the possibility of a deficiency in aggregate demand.

4. When there is no general overproduction, then there can be no problem of general unemployment in the long run, and the economy tends to remain at full employment equilibrium level.

5. In an expanding free enterprise economy when new workers and new firms are productively absorbed, they do not supplant the output, income and employment of the existing ones and as they release additional output and income, the community becomes automatically rich with increasing size of national income It also means that employment of new or unused resources in productive process tends to pay its own way and confer benefits to the society at large.

6. Supply creates its own demand in real terms. Thus, money is just a veil. Behind the flow of money, there is a real flow of goods and services which is important. Thus, changes in the supply of money has no impact on the real economy's process of equilibrium at full employment level.

7. A capitalist economy under the laissez-faire policy has built-in flexibility. It functions automatically to optimum adjustments through freely operating market mechanism and the price system.

8. Savings investments equality is brought about by the flexibility of interest rates. Rate of interest is, thus, a strategic variable in the equilibrium process of the economy.

9. Wage flexibility in a competitive labour market tends to bring about full employment of workers.

KEYNES'S OBJECTION TO CLASSICAL THEORY OF EMPLOYMENT

Though logically the classical theory is sound and well-knit on the basis of its axioms, Keynes has criticized and completely discarded it on the ground of its false premises.

The following are the main points of Keynes's criticisms against the classical theory:

Assumption of full employment unrealistic:

(1) Keynes considered the fundamental classical assumption of full employment equilibrium condition as unrealistic. To him, there is the possibility of equilibrium condition at under-employment as a normal phenomenon. Keynes regarded it as a rare phenomenon. Keynes in fact considered the under employment condition of equilibrium to be more realistic.

(2) Long term equilibrium opposed. Keynes opposed the classical insistence on long-term equilibrium; instead, he attached greater importance to short term equilibrium.

(3) Disregard the impossibility of general over production and disequilibrium. Classical economists rest on the Say's Law which blindly assured that supply always creates its own demand and affirmed the impossibility of general overproduction and disequilibrium in the economy. Keynes totally disagreed. with this and stressed the possibility of supply exceeding demand, causing disequilibrium in the economy and pointed out that there is no automatic self adjustment in the economy.

(4) Refuted the process of equilibrium automatic and self-balancing. Say's Law. laid down that supply and demand would always be in equilibrium and the process of equilibrium was automatic and self-balancing. Keynes refuted this too. He pointed out that the structure of

modern society rests on two principal classes the rich and the poor-and there is unequal distribution of wealth between them. The haves have too much of wealth all of which cannot be consumed by them and the have-nots too little even to meet their minimum consumption needs. Thus, national production can exceed national consumption, which means a deficiency in aggregate demand in relation to additional supply, and this results in general overproduction and unemployment. Thus, Keynes pointed out the error of the classicists in denying the general overproduction and unemployment.

(5) Rejected Pigou's notion of unemployment disappear on acceptance of low wages by the workers. Keynes strongly objected to the classical formulation or employment theory, particularly Pigou's notion that unemployment will disappear if the workers will just accept sufficiently low wage rates. He rejected Pigou's plea for wage flexibility as a means of promoting employment at a time of depression. According to Pigou, employment in the society can be increased by a device of money wage cuts and noted that by following a policy of wage-cuts, costs would fall, resulting in the expansion of demand, greater production, and therefore, greater investments and employment.

(6) Objected to the classical idea of saving and saving investment. Keynes also attacked the classical theory in regard to saving and investment. He objected to the classical idea of saving and investment equilibrium through flexible rates of interest. To him saving and investment equilibrium are obtained through changes in income rather than in the interest rate.

(7)Attacked the Classicists for their unrealistic approach to the problems of the contemporary capitalist economic system. Keynes strongly attacked the classicists for their unrealistic approach to the problems of contemporary capitalist economic system. Pigou's plea for a return to free perfect competition to solve the problem of unemployment seemed 'obsolete' in the changed conditions of the modern world. Pigou grieved at the modern state's intervention with the free working of the economic system because it causes unemployment. He also condemned the activities of the trade unions which prevent the falling of wage level and thereby cause increase in unemployment. Keynes pointed out that trade unions are an integral part of modern society and they will grow further. Besides, a progressival welfare state will not refrain from accepting or adopting the principle of fixation of minimum wages. Keynes wanted

governmental action to bring about adjustment in the economic system, because the modern economic system is not self-adjusting in character as assumed by the classicists.

Conclusion

In view of the above we may say that classical theory of employment, in Keynes's view, is unrealistic and irrelevant to the present conditions and out of date, and, thus, cannot be a guide to the solution of modern economic problems. Thus, the basic need is for a theory which will diagnose the ills of the modem economic system and furnish a guide for the solution of problems like unemployment, business cycles, inflation and other economic ills.

Keynes' Theory of Employment: Concept of Effective Demand

Great Depression of 1930's created problems of increasing unemployment, reducing national income, declining prices and failing firms increased in intensity. The classical model miserably failed to explain and provide a workable solution for how to escape the depression. Definition of a recession A recession is characterized as a period of negative economic growth for two consecutive quarters. In a recession, unemployment will rise, output fall and government borrowing increase. Definition of depression A depression is a recession but much more severe and long lasting. There is no agreed upon definition of a depression. But, generally a depression would have some of the following characteristics.

• Decline in output for a prolonged period e.g. greater than 2 years.

• A drop in output of 10% or greater.

• Unemployment rate touching 20% (rather than the 10% rate associated with recessions)

It was at that time when J. M. Keynes wrote his famous book 'General Theory'. In it he presented an explanation of the Great Depression of 1930's and suggested measures for the solution. He also presented his own theory of income and employment. According to Keynes- "In the short period, level of national income and so of employment is determined by aggregate demand and aggregate supply in the country. The equilibrium of national income occurs where aggregate demand is equal to aggregate supply. This equilibrium is also called effective demand point".

What is Effective Demand?

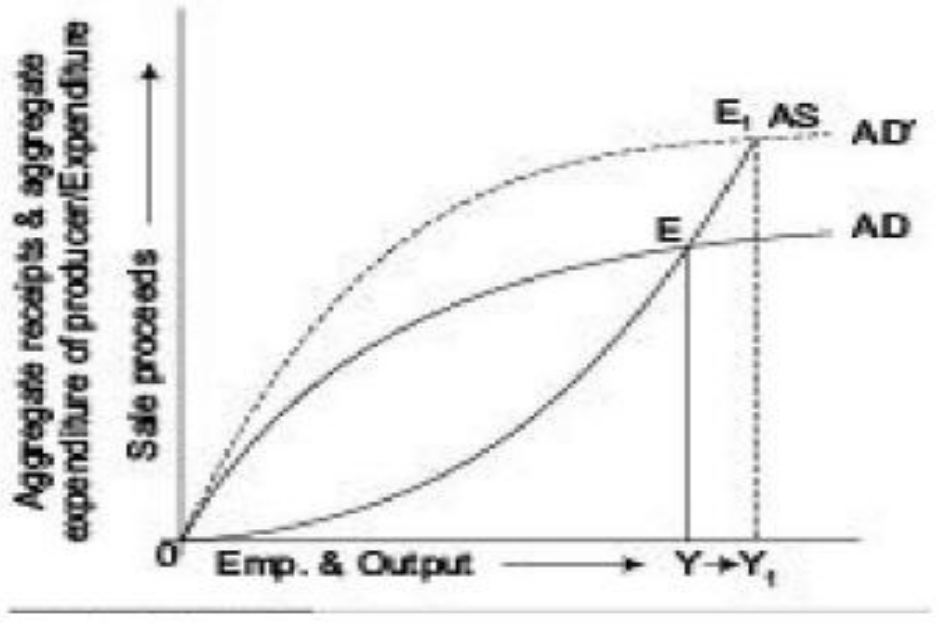
Keynes' theory of employment is a demand-oriented theory. This means that Keynes visualized employment/unemployment from the demand side of the model. According to Keynes, the volume of employment in a country depends on the level of effective demand of people for goods and services. Unemployment is attributed to the deficiency of effective demand. It is to be kept in mind that Keynes' theory is a short run theory when population, labor force, technology, etc., do not change. Keynes' theory of employment is based on the principle of effective demand. In order to understand the concept of effective demand we have to visualize two prices operating in the economy, viz., aggregate demand price and aggregate supply price.

The aggregate demand price refers to the level of price (aggregate or average) at which goods and services are actually sold, that is, the producers actually receive the price by selling their goods and services. In other words, this is the price which the consumers are prepared to pay for purchasing goods and services.

Aggregate supply price is the minimum price necessary for producers to carry on production of such foods and services. Below this minimum price no producer would be willing to cover production. Now, in the short run, as long as the aggregate demand price is greater than the aggregate supply price, all producers will experience profits which would motivate them to increase output and employment. Only when the aggregate demand price is just equal to the aggregate supply price the producers find themselves in a state of indifference or 'equilibrium. If this point is exceeded, i.e., if aggregate supply price is greater than the aggregate demand price so that producers are not able to receive their expected minimum price, they would rather be rethinking about continuing output and employment. The point of equilibrium or equality between aggregate demand and aggregate supply prices has been defined as the "effective demand'.

GRAPHICAL EXPLAINATION With the idea of aggregate demand and aggregate supply prices are associated two curves, aggregate demand curve and aggregate supply curve. While both the curves appear as upward rising from left to right, the former (aggregate demand curve) lies above the latter aggregate supply curve). Also, while AD curve increases at a decreasing rate, the AS curve increases with an increasing rate . The equilibrium in the economy and equilibrium level of employment occurs at point YE where AD =AS with equilibrium level of

employment of OY. However, OY is not necessarily the full employment level even though economy is at equilibrium. This is what Keynes defined as an underemployment equilibrium. In fact, the total available supply of labour is OY1, more than OY by YY1, suggesting the magnitude of involuntary unemployment.



Why does such a situation of underemployment equilibrium develop in the economy? Keynes visualizes that the extent of aggregate demand (or, aggregate expenditures) falls short of the producers expectations (or, aggregate supply) or their minimum supply prices necessary to continue output and absorb the unemployed labour force. Clearly, the prescription suggested is to increase the level of aggregate demand. In terms of Fig. , it would possibly happen when the entire AD function shifts upward so much that AD intersects AS beyond E and employment increases so much to allow the producers to produce at the "potential level', Y1, as shown in Figure by shifted AD curve and the ultimate equilibrium point of E. Thus, in terms of Keynesian analysis, economy may achieve 'equilibrium' but not necessarily at full employment output. It is a coincidence if that happens but the normal situation is that of underemployment equilibrium with potential output greater than the actual output.

UNIT -4

NATIONAL INCOME DETERMINATION

DETERMINATION OF NATIONAL INCOME IN TWO SECTOR/ CIRCULAR FLOW OF INCOME IN TWO SECTOR MODEL

What is Circular Flow of Income?

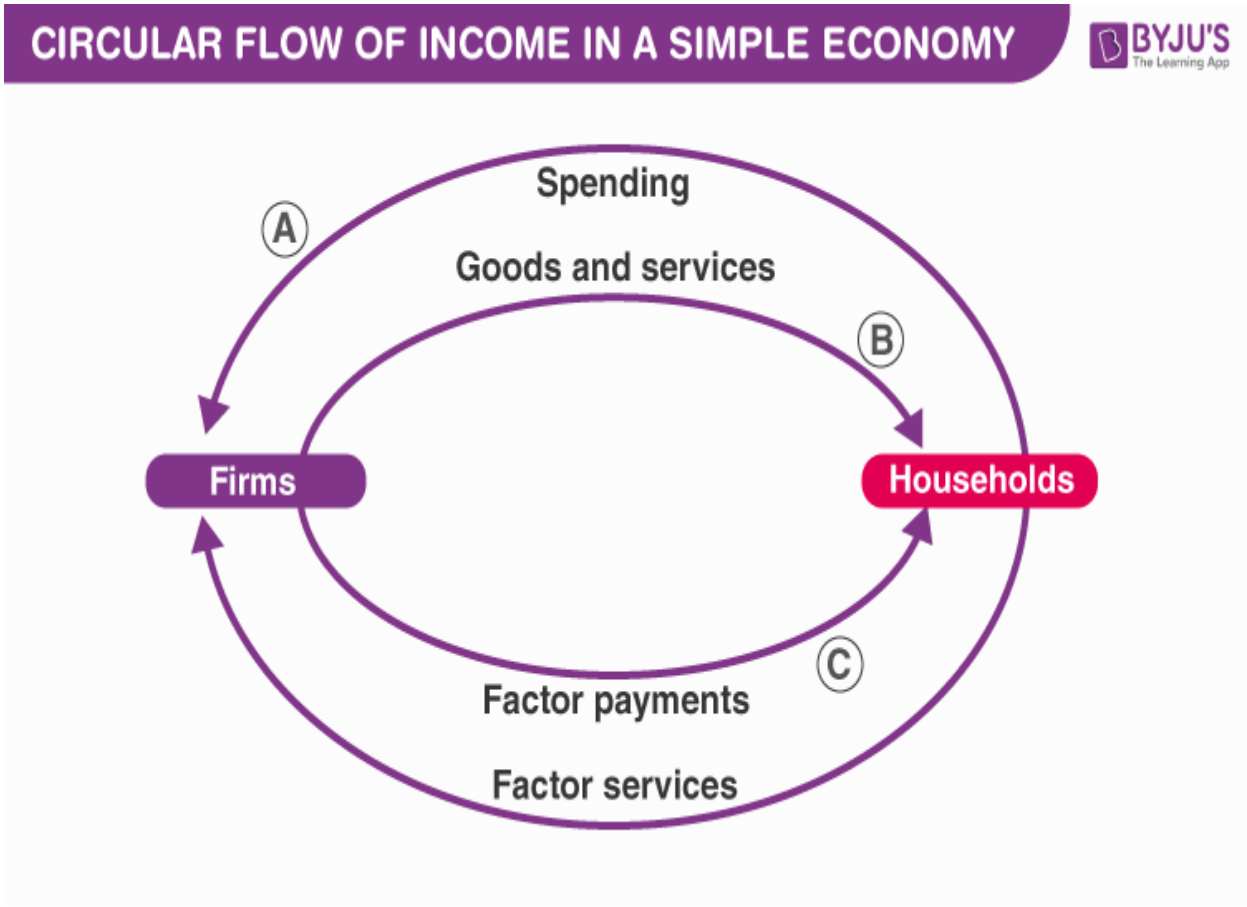
The circular flow means the unending flow of production of goods and services, income, and expenditure in an economy. It shows the redistribution of income in a circular manner between the production unit and households.

These are **land, labour, capital, and entrepreneurship.**

- The payment for the contribution made by fixed natural resources (called land) is known as rent.
- The payment for the contribution made by a human worker is known as wage.
- The payment for the contribution made by capital is known as interest.
- The payment for the contribution made by entrepreneurship is known as profit.

Circular Flow of Income in a Two-Sector Economy

It is defined as the flow of payments and receipts for goods, services, and factor services between the households and the firm sectors of the economy.

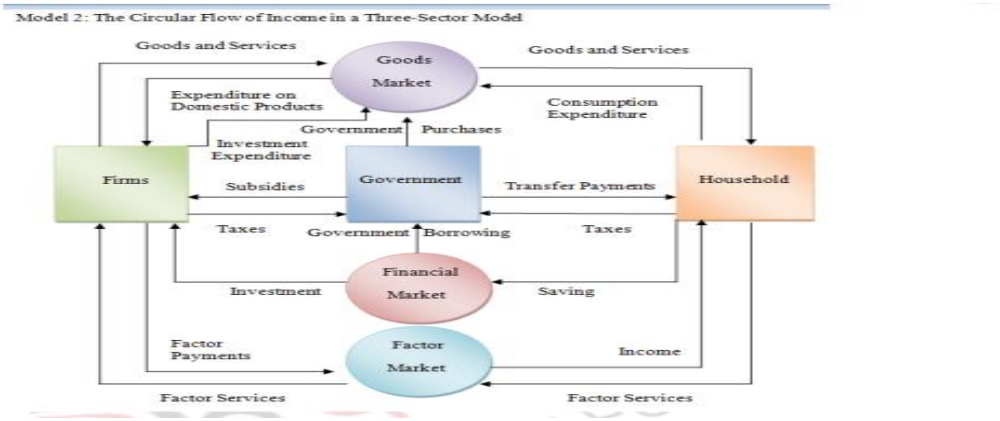


Explanation

- The outer loop of the diagram shows the flow of factor services from households to firms and the corresponding flow of factor payments from firms to households.
- The inner loop shows the flow of goods and services from firms to households and the corresponding flow of consumption expenditure from households to firms.
- The entire amount of money, which is paid by firms as factor payments, is paid back by the factor owners to the firms.

Circular Flow of Income in a Three-Sector Economy

The Circular Flow of Income in a Three – Sector Model The three sector model of circular flow of income highlights the role played by the government sector. This is a more realistic model which includes the economic activities of the government however; we continue to assume the economy to be a closed one. There are no transactions with the rest of the world. The government levies taxes on the households and the firms and it also gives subsidies to the firms and transfer payments to the household sector. Thus, there is income flow from the household and firms to the government via taxes in one direction and there is income outflow from the government to the household and firms in the other direction. If the government revenue falls short of its expenditure, it is also known to borrow through financial markets. This sector adds three key elements to the circular flow model, i.e., taxes, government purchases and government borrowings. This is explained with the help of the following diagram



A three-sector economy model rectifies some of the drawbacks of the two-sector model by introducing the following.

1. The government plays a pivotal role in consuming a major portion of the money flow in taxes.
2. Hence, the flow of money follows from the firms and households to the government in taxes.
3. The government utilizes taxes to develop infrastructure and other services like healthcare, education, etc. So, the government pays back in terms of incentives and purchases goods from the firms.

4. The government pays the households interest rates in government securities, pay revisions, government jobs, etc.
5. Together, it all completes the circular movement of money.
6. If the government's income from the taxes is less than its expenditure, it is said to have a deficit budget.

As such, the role of government cannot be ignored in any economy because of such a huge control it possesses over the economic cycle. Consequently, governmental interference affects the overall economic performance of a country.

A three-sector economy does not consider the role of foreign markets, which has become even more prevalent in the current globalized world.

Circular Flow of Income in A Four Sector Economy

The four-sector economy model is an open-ended economy that goes beyond by considering the foreign sector's role in the overall economic cycle.

The main features of the four-sector economy are as follows:

1. With the introduction of the foreign sector, the scope widens further. The money flows to households or firms when they buy goods and services from a foreign country, a lso known as imports.
2. The money flows back to households when foreign countries give them employment. For firms, money flows back when foreign countries purchase goods and services, also called exports.
3. If the value of imports is equal to the value of exports, it is called a balanced trade. If imports are greater than exports, it is a trade deficit. If exports are greater than imports, it is called a trade surplus.
4. However, in the diagram, for the sake of simplicity, the trade relation (for goods and services) is shown only between firms and foreign markets.

Thus, we can say that the foreign players are investing in the US market, or the US firms rely on the foreign market to fulfill their production needs and vice-versa.

MEANING OF INVESTMENT MULTIPLIER

The Investment Multiplier J.M. Keynes has formulated the concept of investment multiplier, the multiplier refers to the effects of changes to investment outlays on aggregate income through induced consumption expenditures. Thus, the multiplier expresses a relationship between an initial increment in investment and the resulting increase to aggregate income. In fact, the multiplier is the name given to the numerical coefficient which indicates the increase in incomes which will result in response to an increase on investment. For instance, if investment increases by one crore of rupees and the aggregate income (or the national income) rises by four crores of rupees, then the multiplier is 4 (increase in income of Rs. 4 crores + increase in investment of Rs. 1 crore 4). The multiplier may be defined as the ratio of the realised changed in aggregate income to the given change in investment.

Symbolically,

$$K = \Delta Y/\Delta I$$

Where, K stands for the investment multiplier, ΔY represents change in income, and ΔIl refers to a given change in investment.

It follows that, given the multiplier coefficient K, we can measure the resulting change in the level of income caused by an intended change in investment.

$$\Delta Y = k.\Delta I$$

ASSUMPTIONS OF INVESTMENT MULTIPLIER

The assumptions which are implicit in the Keynesian theory of the multiplier may be stated as under:

1. The original propensity to consume remains constant during the income propagation.

2. Fiscal and monetary policies remain stable, so that they do not affect the propensity to consume.

3. Excess capacity exists in the economic system. The assumption is that the economy operates at less than full-employment level, so that the multiplier effect is realized in real terms in that it raises the level of output and employment.

4. A closed economy model is assumed: That is, the country has no foreign trade activity. With this assumption, the impact of international economic transaction and consequent position of "the balance of payments on the domestic level of income and consumption is ruled out.

5.A static economy model is assumed. That is, there is absence of dynamic change in the economy. The state of technology, capital formation and accumulation, labour supply, stock of raw materials, power resources and other input variables are assumed to be given.

6. There is no significant time lag involved between the receipt of income and its expenditure. Thus the process of income propagation in each round assumed to be instantaneous.

SHORT COMINGS OF THE MULTIPLIER THEORY

Keynes's multiplier theory has the following drawbacks/Short comings.

1. By assuming an instantaneous relationship between income, consumption and investment, Keynes treated the multiplier as a timeless phenomenon. In reality, however, there is a time lag (interval) between the receipt of income and consumption expenditure of the same as well as between consumption expenditure and its reappearance as income. Thus, modern economists point out that the multiplier effect always takes some time to materialize its full impact That is time lag is very important to get the investment material.

2. Keynes's principle of investment multiplier is a static phenomenon, which is unsuited to the changing processes of the dynamic world. Under certain static assumptions, it shows the process of income propagation from one point of equilibrium to another, there is no analysis of the actual sequence of events nor is there a reckoning of time lag. The result is obtained only after under static conditions.

3. Keynes presents no empirical evidence of his multiplier theory. As Gottfried Haberler points out, "Keynes offers no adequate proof, only a number of rather disconnected observations. His central theoretical idea about the relationship between the propensity to consume and the multiplier, which is destined to give shape and strength to these observations turns out to be not an empirical statement which tells us something about the real world, but a barren algebraic relation which no appeal to facts can either confirm or disprove. In short. Keynes's theory of multiplier is an unverified hypothesis.

4. Probably, the greatest weakness of the multiplier theory, according to Gordon, is its exclusive emphasis on consumption. It would be more realistic to speak of a "marginal propensity to spend" rather than consumer, and then to consider the repercussions of an initial increase in investment, not only on consumption but also on total private investment and government spending.

5. The multiplier takes into account only the effects of induced consumption on income; it neglects the repercussions of induced consumption on induced investment. It fails to see the typical relationship between the demand for capital goods is a derived demand.

6. Professor Hazlitt held that about the concept of multiplier some Keynesians make fuss than about anything else in the Keynesian system. In his view, there can never be any precise, pre-

determinable or mechanical relationship between investment and income, and that the multiplier is in fact a worthless concept. It is a myth.

LIMITATIONS OR LEAKAGES OF INVESTMENT MULTIPLIER

Leakages are the potential diversions from the income stream which tend to weaken the multiplier effect of new investment. Given the marginal propensity to consume, the increase in income in each round declines due to leakages in the income steam and ultimately the process of income propagation "peters out". The following are the important leakages:

1. Saving. Saving is the most important leakage of the multiplier process. Since the marginal propensity to consume is less than once, the whole increment in income is not spent on consumption. A part of it is saved which peters out of the income stream and the increase in income in the next round declines. Thus the higher the marginal propensity to save, the smaller the size of the multiplier and the greater the amount of leakage out of the income stream, and vice versa. For instance, if MPS=1/6, the multiplier is 6, according to the formula K=1/MPS and the MPS of 1/3 gives a multiplier of 3.

2. Strong Liquidity Preference. If people prefer to hoard the increased income in the form of idle cash balances to satisfy a strong liquidity preference for the transaction, precautionary and speculative motives, that will act as a leakage out of the income stream. As income increases people will hoard money in inactive bank deposits and the multiplier process is checked.

3. Purchase of Old Stocks and Securities. If a part of the increased income is used in buying old stocks and securities instead of consumer goods, the consumption expenditure will fall and its cumulative effect on income will be less than before. In other words, the size of the multiplier will fall with a fall in consumption expenditure when people buy old stocks and shares.

4. Debt Cancellation. If a part of increased income is used to repay debts to banks, instead of spending it for further consumption, that part of the income peters out of the income stream. In case, this part of the increased income is repaid to other creditors who save or hoard it, the multiplier process will be arrested.

5. Price inflation. When increased investment leads to price in nation, the multiplier effect of increased income may be dissipated on higher prices. A rise in the prices of consumption goods

implies increased expenditure on them. As a result, increased income is absorbed by higher prices and the real consumption and income fall. Thus price inflation is an important leakage which tends to dissipate increase in income and consumption on higher prices rather than in increasing output and employment.

6. Net Imports. If increased income is spent on the purchase of imported goods it acts as a leakage out of the domestic income stream. Such an expenditure fails to effect the consumption of domestic goods. This argument can be extended to net imports when there is an excess of imports over exports thereby causing a net outflow of funds to other countries.

7. Undistributed Profits. If profits accruing to joint stock companies are not distributed to the shareholders in the form of dividend but are kept in the reserve fund, it is a leakage from the income stream undistributed profits with the companies tend to reduce the income and hence further expenditure on consumption goods thereby weakening the multiplier process.

8. Taxation. Taxation policy is also an important factor in weakening the multiplier process. Progressive taxes have the effect of lowering the disposable income of the taxpayers and reducing their consumption expenditure. Similarly commodity taxation tends to raise the prices of goods, and a part of increased income may be dissipated on higher prices. Thus increased taxation reduces the income stream and lowers the size of the multiplier.

9. Excess Stocks of Consumption Goods. If the increased demand for consumption goods is met from the existing excess stocks of consumption goods there will be no further increase in output, employment and income the multiplier process will come to a half till the old stocks are exhausted.

UNIT V

THEORIES OF CONSUMPTION INVESTMENT

Keynes's Psychological Law of Consumption

Keynes's Theory of Consumption: Keynes in his "General theory", published in 1936, laid the foundations of modern macroeconomics. The concept of consumption function plays an important role in Keynes' theory of income and employment.

According to Keynes, of all the factors it is the current level of income that determines the consumption of an individual and also of society. Keynes laid stress on the absolute size of current income as a determinant of consumption, his theory of consumption is also known as absolute income theory of consumption.

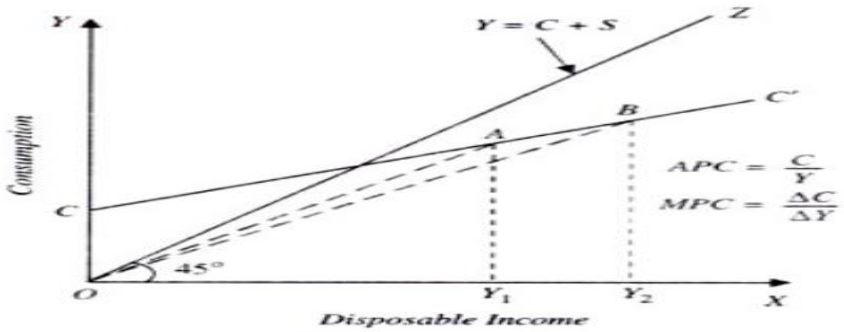
Keynes put forward a psychological law of consumption, according to which, as income increases consumption increases but not by as much as the increase in income. In other words, marginal propensity to consume is less than one. 1> MPC>0 While Keynes believed that there are many other factors including interest rate and wealth that influenced the level consumption expenditure, he emphasized that it is the current level of income on which the consumption spending of an individual and the society depends.

About consumption behaviour, Keynes makes three points. First, he suggests that consumption expenditure depends mainly on absolute income of the current period, that is, consumption is a positive function of the absolute level of current income. The more income in a period one has, the more is likely to be his consumption expenditure in that period. In other words, in any period the rich people tend to consume more than the poor people do. Secondly, Keynes points out that consumption expenditure does not have a proportional relationship with income.

According to him, as the income increases, consumption increases but not in the same proportion. The proportion of consumption to income is called average propensity to consume (APC). Thus, Keynes argues that average propensity to consume (APC) falls as income increases.

The Keynes' consumption function can be expressed in the following form C = a + bYd where C is consumption expenditure and Yd is the real disposable income which equals gross national income minus taxes, a and b are constants, where a is the intercept term, that is, the amount of consumption expenditure at zero level of income. Thus, a is autonomous consumption. The parameter b is the marginal propensity to consume (MPC) which measures the increase in consumption spending in response to per unit increase in disposable income.

Thus MPC = ΔC/ΔY Since the average propensity to consume falls as income increases, the marginal propensity to consume (MPC) is less than the average propensity to consume (APC).



The Keynesian consumption function is depicted in Fig . In Fig. we have shown a linear consumption function with an intercept term. In this form of linear consumption function, though marginal propensity to consume (ΔC/ΔY) is constant, average propensity to consume is declining with the increase in income as indicated by the slopes of the lines OA and OB at levels of income Y1 and Y2 respectively. The straight line OB drawn from the origin indicating average propensity to consume at higher income level Y2 has a relatively less slope than the straight line OA drawn from the origin to point A at lower income level Y1. The decline in average propensity to consume as the income increases implies that the proportion of income that is saved increases with the increase in national income of the country. This result also follows from the studies of family budgets of various families at different income levels. The fraction of income spent on consumption by the rich families is lower than that of the poor families. In other words, the rich families save a higher proportion of their income as compared to the poor families.

The assumption of diminishing average propensity to consume is a significant part of Keynesian theory of income and employment. This implies that as income increases, a progressively larger

proportion of national income would be saved. Therefore, to achieve and maintain equilibrium at full-employment level of income, increasing proportion of national income is needed to be invested. If sufficient investment opportunities are not available, the economy would then run into trouble and in that case it would not be possible to maintain full employment because aggregate demand will fall short of full-employment output. On the basis of this increasing proportion of saving with the increase in income and consequently, the emergence of the problem of demand deficiency, some Keynesian economists based the theory of secular stagnation on the declining propensity to consume.

rawbacks of the Absolute Income Hypothesis First serious drawback of the Keynes's absolute income hypothesis is that it is based more on

introspection rather than on observed facts. It is also argued that the Keynesian theory is 'Conjectural-a

theory not supported by empirical data on consumption and disposable income. Second, the early empirical studies have supported only the first and the third properties of the Keynesian consumption function. That is, the empirical tests have supported the view that C-f(Y) and ACAY<CIY. The second and the fourth properties have not only failed to stand the empirical test and have also been a major source of controversy. Third, and more importantly, the post-War studies based on the US data cast serious doubts on the validity of the simple Keynesian consumption function. Kuznets's study", (which earned him Nobel Prize) of the disposable income and savings in the US during the period from 1869 to 1929 disclosed that MPC remained constant during the whole reference period and that MPC APC Kuznets estimated a consumption function of the form C-bY, b being approximately equal to 0.9. This contradicted the third property of the Keynesian consumption function, i.e., MPC APC. Furthermore, the Keynesian consumption function applied to the pre-War data predicted a consumption level which was much higher than that of the aggregate income. This created doubts about the empirical validity of the Keynesian consumption theory.

RELATIVE INCOME HYPOTHESIS

Consumption Relative income theory has been given by an American economist JS Duesenberry. The relative income hypothesis of James Duesenberry is based on the rejection of the two fundamental assumptions of the consumption theory of Keynes. Duesenberry states that:

(1) every individual's consumption behaviour is not independent but interdependent of the behaviour of every other individual, and

(2) that consumption relations are irreversible and not reversible in time. A rich person will have a lower APC because he will need a smaller portion of his income to maintain his consumption pattern. On the other hand, a relatively poor man will have a higher APC because he tries to keep up with the consumption standards of his neighbours or associates. The relative income hypothesis suggests that households try to imitate or copy the consumption levels of their neighbours or other households in a particular community. This is called 'Demonstration Effect'

This provides the explanation of the constancy of the long-run APC because lower and higher APCs would balance out in the aggregate. Thus even if the absolute size of income in a country increases, the APC for the economy as a whole at the higher absolute level of income would be constant. But when income decreases, consumption does not fall in the same proportion because of the Ratchet Effect.

The hypothesis states that during a period of prosperity, consumption will increase and gradually adjust itself to a higher level. Once people reach a particular peak income level and become accustomed to this standard of living, they are not prepared to reduce their consumption pattern during a recession.

As income falls, consumption declines but proportionately less than the decrease in income because the consumer dissaves to sustain consumption. On the other hand, when income increases during the recovery period, consumption rises gradually with a rapid increase in saving. Economists call this the Ratchet Effect.

It's Criticisms:

1. No Proportional Increase in Consumption:

The relative income hypothesis assumes a proportional increase in income and consumption. But increases in income along the full employment level do not always lead to proportional increases in the consumption.

2. No Direct Relation between Consumption and Income:

This hypothesis assumes the relation between consumption and income to be direct. But this has not been borne out by experience. Recessions do not always lead to decline in consumption, as was the case during the recessions of 1948-49 and 1974-75.

3. Reversible Consumer Behaviour:

According to Micheal Evants, "The consumer behaviour is slowly reversible over time, instead of being truly irreversible. Then previous peak income would have less effect on current consumption, the greater the elapsed time from the last peak." Even if we know how a consumer spent his previous peak income, it is not possible to know how he would spend it now.

4. Neglects Other Factors:

This hypothesis is based on the assumption that changes in consumer's expenditure are related to his previous peak income. The theory is weak in that it neglects other factors that influence consumer spending such as asset holdings, urbanisation, changes in age-composition, the appearance of new consumer goods, etc.

5. Consumer Preferences do not depend on others:

Another unrealistic assumption of the theory is that consumer preferences are interdependent whereby a consumer's expenditure is related to the consumption patterns of his rich neighbour. But this may not always be true.

Permanent Income Theory of Consumption:

Permanent income theory of consumers' behaviour has been put forward by a well-known American economist, Milton Friedman. Though Friedman's permanent income hypothesis differs from life cycle consumption theory in details, it has important common features with the

latter. Like the life cycle approach, according to Friedman, consumption is determined by long-term expected income rather than current level of income.

It is this long-term expected income which is called by Friedman as permanent income on the basis of which people make their consumption plans. To make his point clear, Friedman gives an example which is worth quoting. According to Friedman, an individual who is paid or receives income only once a week, say on Friday, he would not concentrate his consumption on one day with zero consumption on all other days of the week.

He argues that an individual would prefer a smooth consumption flow per day rather than plenty of consumption today and little con-sumption tomorrow. Thus consumption in one day is not determined by income received on that particular day. Instead, it is determined by average daily income received for a period. This is on the line of life cycle hypothesis. Thus, according to him, people plan their consumption on the basis of expected average income over a long period which Friedman calls permanent income.

It may be noted that permanent income or expected long-term average income is earned from both "human and non-human wealth". The income earned from human wealth which is also called human capital refers to the return on income derived from selling household's labour services, that is, efforts and abilities of its labour.

This is generally referred to as labour income. Non-human wealth consists of tangible assets such as saved money, debentures, equity shares, real estate and consumer durables. It is worth noting that Friedman regards consumer durables such as cars, refrigerators, air conditioners, television sets as part of households' non-human wealth. The imputed value of the flow of services from these consumer durables is considered as consumption by Friedman.

Relationship between Consumption and Permanent Income:

Now, what is the precise relationship between consumption and permanent income (that is, the expected long period average income). According to permanent income hypothesis, Friedman thinks that consumption is proportional to permanent income

$$C_P = kY_P$$

where

YP is the permanent income

CP is the permanent consumption

k is the proportion of permanent income that is consumed.

The proportion or fraction k of permanent income that is consumed depends upon the following factors:

1. Rate of interest (i):

At a higher rate of interest the people would tend to save more and their consumption expenditure will decrease. The lowering of rate of interest will have opposite effect on the consumption.

2. The proportion of non-human wealth to human wealth:

The relative amounts of income from physical assets (i.e., non-human wealth) and income from labour (i.e., human wealth) also affects consumption expenditure. This is denoted by the term w in the permanent consumption func-tion and is measured by the ratio of non-human wealth to income. In his permanent income hypoth-esis Friedman suggests that consumption expenditure depends a good deal on the wealth or assets possessed by the people. The greater the amount of wealth or assets held by an individual, the greater would be its propensity to consume and vice-versa.

3. Desire to add to one's wealth:

Lastly, households' preference for immediate consumption as against the desire to add to the stock of wealth or assets also determines the proportion of permanent income to be devoted to consumption. The desire to add to one's wealth rather than to fulfill one's wants of immediate consumption is denoted by u.

Thus rewriting the consumption function based on Friedman's permanent income hypothesis we have

$CP = k (i, w, u) YP$

The above function implies that permanent consumption is function of permanent income. The proportion of permanent income devoted to consumption depends on the rate of interest (i), the ratio of non-human wealth to labour income (w) and desire to add to the stock of assets (u).

Permanent and transitory income:

In addition to permanent income, the individual's income may contain a transitory component that Friedman calls as a transitory income. A transitory income is a temporary income that is not going to persist in future periods. For example, a clerk in an office may get a substantial income from overtime work in a month which he thinks cannot be maintained.

Thus, this large overtime income for a month will be transitory component of income. According to Fried-man, transitory income is not likely to have much effect on consumption.

Thus, income of an indi-vidual consists of two parts, permanent and transitory, which we may write as under:YM

= Yp + Yt

where YM is measured income in a period, Yp is the permanent income and Yt is transitory income.Measuring permanent income:

To make the permanent income hypothesis operational we need to measure permanent income. Permanent income, as is generally defined is "the steady rate of consump-tion a person could maintain for the rest of his or her life, given the present level of wealth and income now and in the future."

However, it is very difficult for a person to know what part of any change in income is likely to persist and is therefore permanent and what part would not persist and is therefore transitory. Friedman has suggested a simple way of measuring permanent income by relating it to the current and past incomes. According to him, permanent income is equal to the last year's income plus a proportion of change in income occurred between the last year and the current year.

Criticism of the permanent income hypothesis

First. Friedman's assumption that there is no correlation between transitory components of consumption and income is unrealistic. This assumption implies that with the increase or decrease in the measured income of the household, there is neither any increase or decrease in the measured income of the household, there is neither any increase or decrease in his consumption, because he either behavior. A person who has a windfall gain does not deposit the entire amount in his bank account buy enjoys the whole or part of it on his current consumption.

Second, Friedman's hypothesis states that the APC of all families, whether rich or poor, is the same in the long-run. But this is against the ordinary observed behavior of households. It is an established fact that low-income families do not have the capacities to save the same fraction of their incomes as the high income families.

Third, Friedman's use of the terms "permanent", "transitory", and "measured" have tended to confuse the theory. The concept of measured income mixes together permanent and transitory income on the one hand, and permanent and transitory consumption on the other.

Lastly, another weakness of the permanent income hypothesis is that Friedman does not make any distinction between human and non-human wealth and includes income from both in a single term in the empirical analysis of his theory.

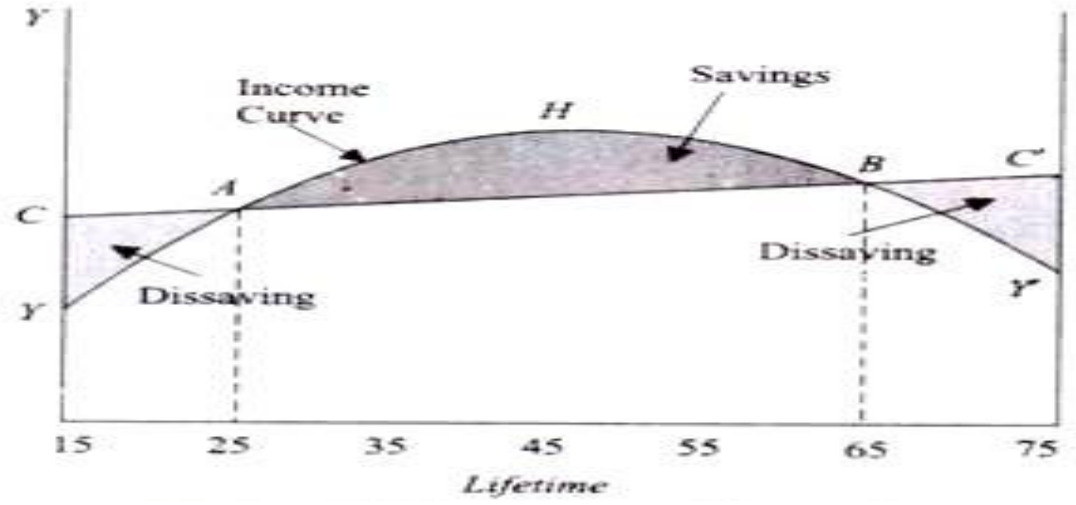
LIFE CYCLE THEORY OF CONSUMPTION:

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.



Life cycle hypothesis has been depicted in Fig. It is assumed that a typical individual knows exactly at what age he will die. In Fig. , 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 dissavings made by him in his early years of life before he is able to earn income as well as the dissavings 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 Fig. that upto 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. To finance hi s excess consumption over his income, he may be borrowing from others.

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 that beyond point B (that is, after retirement at 65 years) his current income falls short of his consumption and therefore he once again dissaves. He would be using his accumulated assets or wealth from his earlier working years to meet the dissavings 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 Fig., 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.

Criticisms of Life Cycle Theory

- It assumes people run down wealth in old age, but often this doesn't happen as people would like to pass on inherited wealth to children. It assumes people are rational and forward planning. Behavioural economics suggests many people have motivations to avoid planning.
- People may lack the self-control to reduce spending now and save more for future.
- Life-cycle is easier for people on high incomes. They are more likely to have financial knowledge, also they have the 'luxury' of being able to save. People on low-incomes, with high credit card debts, may feel there is no disposable income to save.
- Leisure. Rather than smoothing out consumption, individuals may prefer to smooth out leisure – working fewer hours during working age, and continuing to work part-time in retirement.
- Government means-tested benefits for old-age people may provide an incentive not to save because lower savings will lead to more social security payments.

INVESTMENT AND ITS TYPES

Investment is an asset or item accrued with the goal of generating income or recognition. In an economic outlook, an investment is the purchase of goods that are not consumed today but are used in the future to generate wealth. In finance, an investment is a financial asset bought with the idea that the asset will provide income further or will later be sold at a higher cost price for a profit.

Classification of investment

1. induced investment

2autonomous investment.

Induced investment

It is that investment which is undertaken as a result of a change in the level of income or consumption. It depends on profit expectations. Entrepreneurs purchase or produce capital goods when they anticipate high level of sales of final goods. This anticipation depends upon the level of income and the level of effective demand of consumers. An increase in the level of income leads to an increase in the level of employment and in the demand for consumer goods. This, in turn, results in an increase in investment. Thus, increased investment increases or decreases with the increase or decrease in the level of income. This functional relationship between income and investment could also be explained by means of a diagram.

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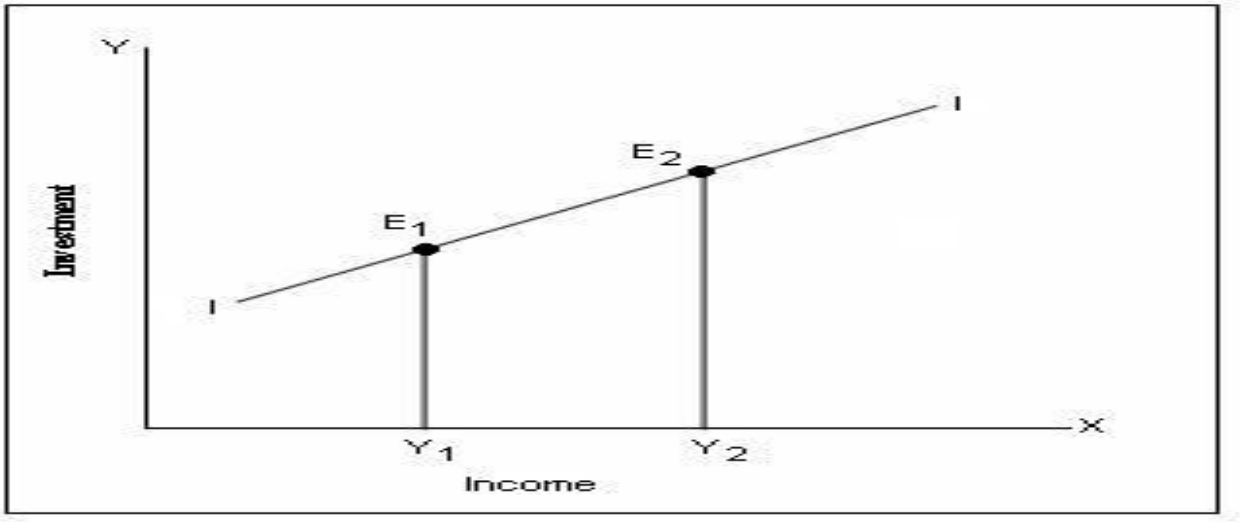
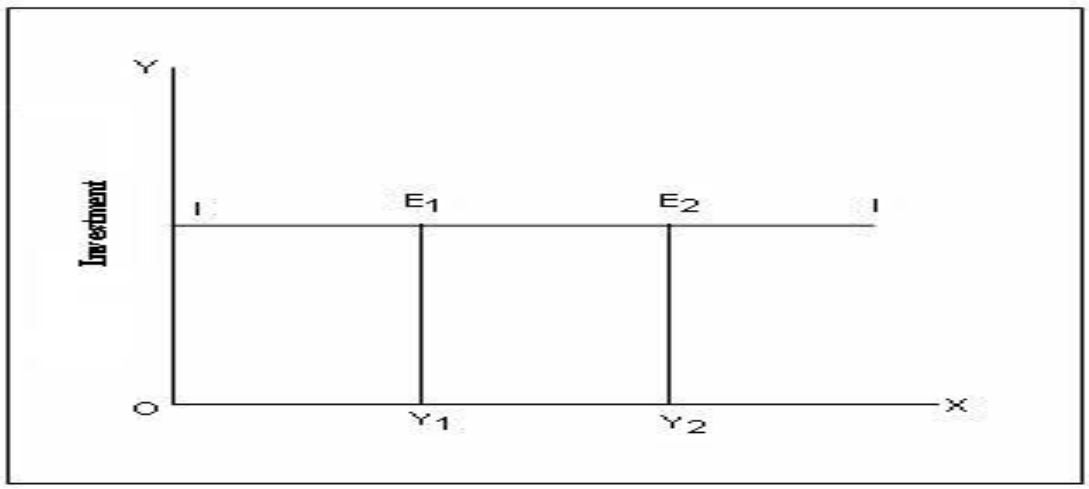


In, income is measured along the X-axis and investment along Y-axis. It represents induced investment curve. As income increase from OY_1 to OY_2, the level of induced investment increases from Y_1E_1 to Y_2E_2. So, the larger the income of the community, the higher will be the induced investment. Hence, induced investment is income-elastic.

Autonomous investment

It refers to that kind of investment which is not affected by the changes in the level of income or output and is not induced solely by profit, motive. Autonomous investment is not a function of output or income. It is related to the technological development, discovery of the new resources,

growth of population etc. On each level of income, autonomous investment remains unaltered. In it is autonomous investment which remains constant at each level of income. Hence autonomous investment is income-inelastic.



It should, however, be noted that autonomous investment does not always remain fixed or constant. It may be fixed at a point of time but may change over time. The government may increase this investment in future by undertaking new proper as construction of roads. bridges, etc.

CONCEPT OF MARGINAL EFFICIENCY OF CAPITALDEFINITION AND EXPLANATION:

Marginal efficiency capital (MEC) is a Keynesian concept. According to J.M. Keynes, nations output depends on its stock capital. An increase in the stock of capital increases output. The question is how much increase in investment raises output? Well, this depends on the productivity of new capital i.e. on the marginal efficiency of capital. Marginal efficiency of capital is the rate return expected to be obtainable on a new capital asset over its life time.

J.M. Keynes defines marginal efficiency of capital as the: "The rate of discount which makes the present value of the prospective yield from the capital asset equal to its supply price".

A businessman while investment in a new capital asset, examines the expected rate of net return (profit) on it during its lifetime against the supply price of capital asset (cost of capital asset) if

the expected rate of profit is greater than the replacement cost of the asset, the businessman will invest the money in the project.

Example: For example, if a businessman spends $10,000 on the purchase of a new griding machine. We assume further that this new capital asset continues to produce goods over a long period of time.

The net return (excluding meeting all expenses except the interest cost) of the griding machine expected to be $1000 per annum. The marginal efficiency of capital will be 10%. (1000/10000) X (100/1) = 10%

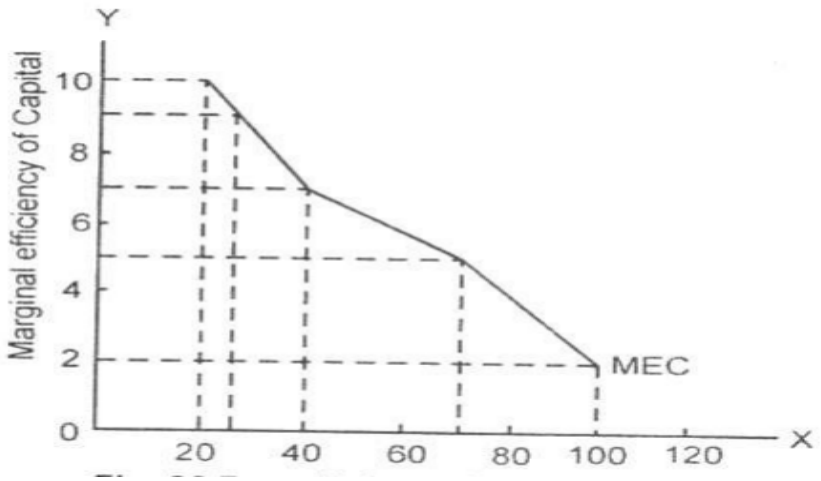
Formula: The following formula is used to know the present value of aeries of expected income throughout the life span of the capital assets. Sp = (R1 /1+r) + (R2 /1+r2) + ... = (Rn /1+rn)

Here: Sp = Stands for supply price of the new capital asset. R 1 + R2 - R n = Stands for returns received on yearly basis. R = It is the rate of discount applied each the years Schedule:

According to J.M. Keynes, the behavior of investment in respect of new investment depends upon the various stock of capital available in the economy at a particular period of time. As the stock of capital increases in the economy, the marginal efficiency of capital goes on diminishing.

Investment ($ in billion)	Marginal Efficiency of Capital
20	10%
25	9%
40	7%
70	5%
100	2%

Diagram/Curve:



In the above table, it is shown when stock of capital is equal to $20 billion, the marginal efficiency of capital is 10% while at a capital stock of $100 billion, it declines to 2%. This investment demand schedule when depicted graphically in figure 30.7 gives us the investment demand curve which goes on sloping downward from left to right. Relative Role of MEC and the Rate of Interest: The MEC and the rate of interest are the two important factors which affect the volume of new investment in a country. An investor while making a new investment, weighs the MEC of new investment against the prevailing rate of interest.

As long as the MEC is higher than the rate of interest, the investment will be made till the MEC and the rate of interest are equalized. For example, if the rate of interest 7%, the induced investment will continue to be made till the MEC and the rate of interest are equalized. At 7% rate of interest, the new investment will be $40 billion. In case, the rate of interest comes down to 2%, the new investment in capital assets will be $100 billion. Summing up, if investment is to be increased in the country, either the rate of interest should go down or MEC should increase.

Factors Affecting MEC:

The marginal efficiency of capital is influenced by short run as well as long run factors. These factors are now discussed in brief:

Short Run Factors

(i) Demand for the product. It the market for a particular good is expected to grow and its costs are likely to fall, the rate of return from investment will be high. If entrepreneurs expect a fall in demand of goods and a rise in cost, the will decline.

(ii) Liquid assets. If the entrepreneurs are holding large volume of working capital, they can take advantage of the investment opportunities that come in their way. The MEC will be high and vice versa.

(iii) Sudden changes in income. The MEC is also influenced by sudden changes in income of the entrepreneurs. If the business community gets windfall profits, or there are tax concession etc.,

the MEC will be high and hence investment in the country will go up. On the other hand, MEC falls with the decrease in income.

(iv) Current rate of investment. Another factor which influences MEC is the current date of investment in a particular industry. If in a particular industry, much investment has already taken place and the rate of investment currently going on in that industry is also very large, then the marginal efficiency of capital will be low.

(v) Wave of optimism and pessimism. The marginal efficiency of capital is also affected by waves of optimism and pessimism in the business circle. If businessmen are optimistic about future, the MEC will be overestimated. During periods of pessimism the MEC is under estimated.

Long Run Factors:

The long run factors which influence the marginal efficiency capital are as under:

(i) Rate of growth of population. Marginal efficiency of capital is also influenced by the rate of growth of population. If population is growing at a rapid speed, it is usually believed that at the demand of various classes of goods will increase. So a rapid rise in the growth of population will increase the marginal efficiency of capital and a slowing down in its rate of growth will discourage investment and thus reduce marginal efficiency of capital.

(ii) Technological development. If investment and technological development take place in the industry, the prospects of increase in the net yield brightens up. For example, the development of automobiles in the 20th century has greatly stimulated the rubber industry, the steel and oil industry, etc. So we can say that inventions and technological improvements encourage investment in various projects and increase marginal efficiency of capital.

(iii) The quantity of capital goods of relevant types already in existence. If the quantity of any particular of goods is available in abundance in the market and the consumers can partially or fully meet the demand, then it will not be advantageous to invest money in that particular project. So in such cases, the marginal efficiency of capital will be low.

(iv) Rate of taxes. Marginal efficiency of capital is directly influenced by the rate of taxes levied by the government on various commodities, When taxes are levied, the cost of commodities is

increased and the revenue is lowered. When profits are reduced, marginal efficiency of capital will naturally be affected. It will be low.