GOVERNMENT ARTS COLLEGE FOR WOMEN, SALEM-8

DEPARTMENT OF ECONOMCIS

UNIT –I

NATURE OF MACRO ECONOMICS-MEANING AND DEFINITION.

CLASS: III B.A ECONOMICS

Economics is a social science which is deals with mankind and human wants. It is deals with scarcity of natural resources and unlimited human wants. The term economics is broadly classified in to two words viz.“ micro economics “and “macro economics”. The word micro is derived from the Greek word micros and the word macro is derived from the Greek word macros. The term micro means a small unit or individual, the term macro means aggregate or total.

Scope and Importance of Macro Economics

Prof Lipsey would prefer to call macro economics as a search for short-cut. He lists out major economic problems coming under macro economics. Thus macro economics is a study of

1. Problem relating to the allocation of resources between the production of consumer goods and capital goods.
2. Problem relating to fluctuations in price level
3. Problems relating to fluctuations in price level of wages
4. Problem relating to rate of growth
5. Problems in relation to international trade & employment
6. Problem relating to monetary & fiscal policies.

Importance of Macro Economics

Macro economics has assumed immense importance as an integral part of modern economics due to the following features.

1. Modern economic system is complex and complicated. Therefore, to get a proper and accurate knowledge of working of economic system, one should study macro economics to understand the behaviour pattern of aggregates such as level of savings, investment, national output and national income.

2. Macro economic approach is of a great help in the formulation of economic policies. All governments are interested in promoting economic growth stability and they take effective steps to control fluctuations. Government deals not with individual savings but with groups of individuals, thereby establishing the importance of macro economics.

3. Modern economics stress on economic growth and stability. Economic fluctuations are the characteristic feature of capitalistic society. The theory of economics fluctuations can be understood & severity of the fluctuations can be controlled only with help of macro economics.

4. Macro economics is essential for understanding macro economics. No macro economics law could be framed without studying aggregates. For Example, the theory of firm could not have been formulated with reference to the behaviour of a single firm. The theory was possible only after examining and analyzing the behaviour pattern of several firms.

5. Macro economic approach is of utmost importance to analyse and understand the effects of inflation and deflation. Keynes considers that inflation are harmful to the society and macro economics help to take effective steps to control them.

6. Modern governments are interested in promoting and maintaining full employment. The determinants of full employment namely, saving, income, consumption are all important concepts of macro economics.

7. Macro economics has brought forward the importance of the study of National income was relegated to the background. It is the study of national income which gives an idea about the standard of living of different countries of the world.

8. The study of macro economics have revealed not only the glaring inequalities of wealth within an economy but has shown the differences in the standard of living. Thus various countries adopt important steps to promote economic welfare.

NATIONAL INCOME: MEANING AND DEFINITION-CONCEPTS

Meaning and definitions of National Income

The national income has been defined by different persons in different ways. There is nothing absolutely right or wrong about any of these definitions. In general, national income means the total value of goods and services produced annually in a country. In other words, the total amount of income accruing from economic activities in a year‟s time is known as national income. It includes payments made to all resources in the form of wages, interests, rent and profits.

1. Marshall's Definitions

Marshall defined national income as below:

According to Marshall, "the labour and capital of country acting on its natural resources produce annually a certain net aggregate of commodities, natural and immaterial including services of all kinds… this is the true net annual income or revenue of the country or national divided". Thus, the national income of a country can be defined as the total market value of all final goods and services produced in the economy in a year.

A.C. Pigou's Definition

A.C. Pigou has, in his definition of national income included, income which can be measured in terms of money. In the words Pigou, "the national dividend is that part of the objective income of the community including of courses, income derived from abroad which can be measured in money.

J.R. Hicks

Defined national income as a collection of goods and services reduced to a common basis by being measured in terms of money.

Concepts of National Income

We study below the important concepts of national income, viz., the GNP, NNP, National income Personal income, Disposable income.

Gross National Product

GNP is the market value of all the final goods and services produced by the economy in as given year.

Certain components of GNP are counted. These include the rental value of owner-occupied houses, and the value of goods produced and consumed by forms. GNP includes foreign trade and exchange rates. Certain kinds of services are not counted, for example housewives services, voluntary community service, Teacher parents their teaching tuition to their children that kind of services are not counted.

Gross Domestic Product (GDP)

GDP is the sum of total value of final goods produced and services provided in a country in one year. This includes the value of produces that are produced in a country for local consumption or for export, but does not include imports from other countries.

GDP is calculated by adding private and public spending, investments, and exports, minus imports and minus value generated by foreign owned companies.

Oxford Dictionary (1996): Defines. GDP as "the total value of goods produced and services provided in a country in one year".

Net National Product (NNP)

GDP minus the cost of capital goods "Used up" during the accounting period. For purposes of measurement depreciation charges and any other allowances for the consumption of durable capital goods are used to estimate the amount of capital "used up" in the production of a given volume of output.

National Income

Defined as "the total value of all final goods and services produced in an economy during the particular year". The aggregate earnings of labour and property during the accounting period. It is an estimate of total cost of all factors of production during a given year.

Personal Income

A measure of the current income received by all "persons" from all sources. For accounting purposes, nonprofit institutions, private trust funds, and private health

(or) welfare funds are classified as "persons" personal income is measured before taxes.

Disposable personal income

The income held by persons after the deduction of all personal taxes and other payments to general government. It is the amount of income available during a given year either for spending on consumption (or) for savings.

Disposable income = Personal income – Personal Taxes = Personal Consumption + Personal Saving

Real Income (RI)

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

Real NNP = NNP for the current year × Base year index current year index

Per Capita Income

The average income of the individuals of a country in the particular year is called per capita income for the year.

$$\text{Per Capita Income} = \frac{\textit{National Income}}{\textit{Population}} \text{ (for a particular year)}$$

Similarly, for the purpose of arriving at the Real per Capita Income the formula employed is

$$\text{Real per capita Income} = \frac{\textit{Real National Income}}{\textit{Population}} \text{ (for a particular year)}$$

Measurement of National Income

There are three methods of measuring national income, which method is to be employed depends on the availability of data in the country and the purpose in hand.

(a) Product Method

Also known as the inventory method or commodity service method, it consists in finding out the market value of all final goods and services produced in a country during a given period. We add up the net production of all the industries in the economy.

(b) Income Method

This method consists in adding together, all the incomes according to the factors of production by way of payment in the form of wages, rents, interest and profits. The method gives us national income according distributive shares.

(b) Expenditure Methods

This method involves the addition of personal consumption expenditures, gross private domestic investment, state purchase of goods and services and net foreign investment. The aggregate gives GNP at market prices. Deducting depreciation from it gives NNP at market prices. Further deduction of indirect taxes gives us no national income at factor cost.

(c) Value added Method

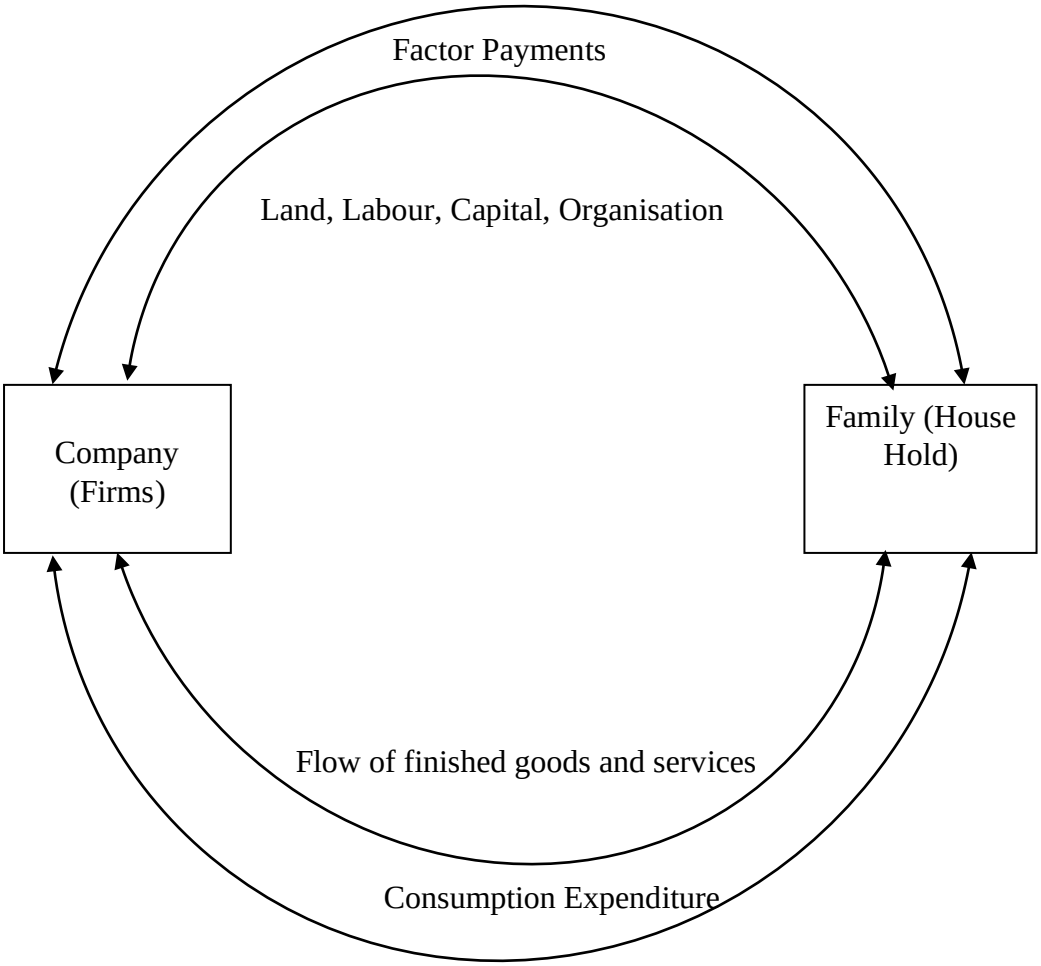
Another method of measuring national income is the value added by industries. The difference between the value of material outputs and inputs at each stage of production is the value added. If all such differences are added up for all industries in the economy, we arrive at the GDP.

A study of Macro models Circular flow model

The modern economy is a monetary economy. In the modern economy, money is used in the process of exchange. Money has facilitated the process of exchange. Money has facilitated the process of exchange and has removed the difficulties of the barter system. Thus money acts as a medium of exchange. The households supply the economic resources or factors to the productive firms and receive in return the payments in terms of money corresponding to the flows of economic resources and the flows of goods and services. But each money flow is in opposite direction to the real flow.

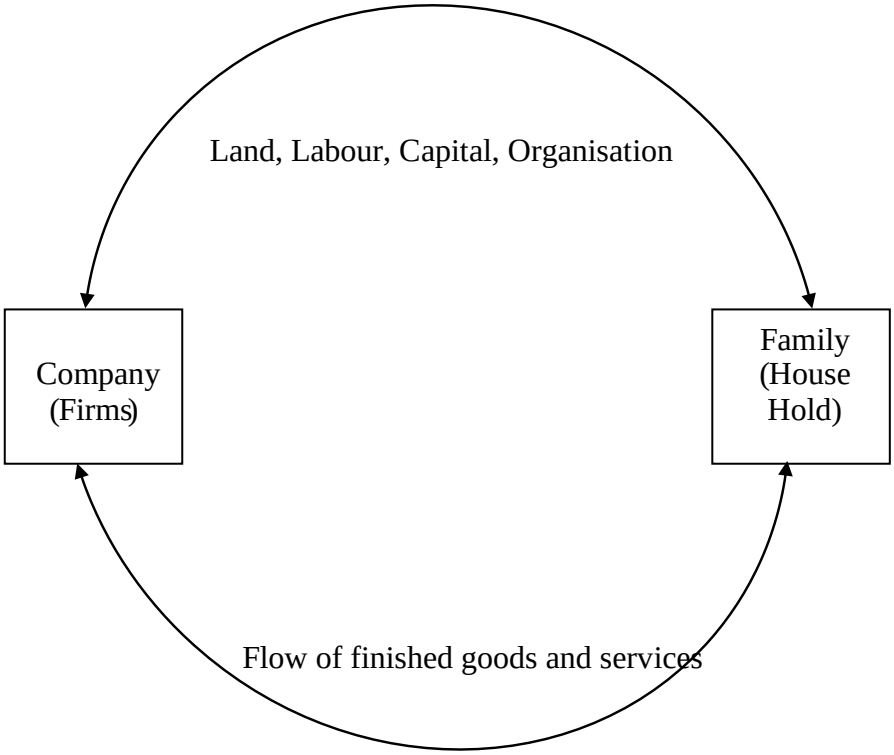
Circular Income Flow in a Two Sectors Economy

Real flows of resources, goods and services have been shown in Fig In the upper loop of this figure, the resources such as land, capital and entrepreneurial ability flow from households to business firms as indicated by the arrow mark.



The flow of money income will not always continue at a constant level. In year of depression, the circular flow of money income will contract, i.e., will become lesser in volume, and in years of prosperity it will expand, i.e., will become greater in volume. This is so because the flow of money is a measure of national income and will, therefore, change with changes in the national income. In year of depression, when national income is low, the volume of the flow of money will be small and in years of prosperity when the level of national income is quite high, the flow of money will be large.

Circular Money Flow with Saving and Investment



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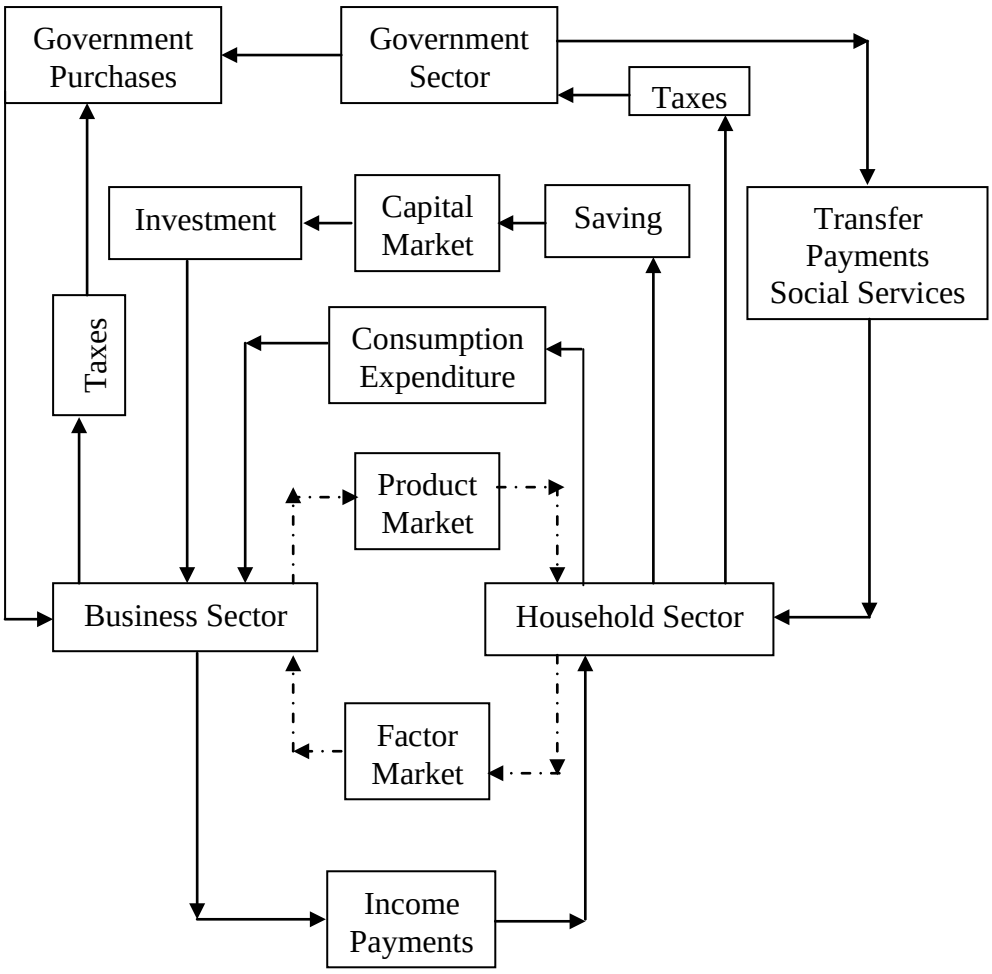
We will now explain if households save apart of their income, how their savings will affect money flows in the economy. When households save, their expenditure on goods and services will decline to that extent and as a result money flow to the business firms will contract.

The Circular income Flow in a Three-Sector Closed Economy



So far we have been working on the circular flow of a two-sector model of an economy. To this we add the government sector so as to make it a three-sector closed model of circular flow of income and expenditure. For this, we add taxation and government purchases (or expenditure) in our presentation. Taxation is a leakage from the circular flow.

First, take the circular flow between the household sector and the government sector. Taxes in the form of personal income tax and commodity taxes paid by the household sector are outflows or leakages from the circular flow. But the government purchases the services of the households, makes transfer payments in the form of old age pensions, employment relief, sickness benefit, etc., and also spends on them to provide certain social services like education, health, housing, water, parks and other facilities. All such expenditures by the government are injections into the circular flow.

Next the circular flow between the business sector and the government sector. All types of taxes paid by the business sector to the government are leakages from the circular flow. On the other hand, the government purchases all its requirements of goods of all types from the business sector, gives subsidies and makes transfer payments to firms in order to encourage their production. These government expenditures are injections into the circular flow.

Figure shows that taxes flow out of the household and business sectors and go to the government. Now, the government makes investment and for this purchases goods from firms

and also factors of production from households. Thus government purchases of goods and services are an injection in the circular flow of income, and taxes are leakages.

The Circular flow in a Four-Sector Open Economy (Adding Foreign Sector:)

So far the circular flow of income and expenditure has been shown in the case of a closed economy. But the actual economy is an open one where foreign trade plays an important role. Exports are an injection or inflows into the economy. They create incomes fro the domestic firms. When foreigners buy goods and services produced by domestic firms, they are exports in the circular flow of income. On the other hand, imports are leakages from the circular flow. They are expenditures incurred by the household sector to purchase goods from foreign countries. These exports and imports in the circular flow are shown in Figure

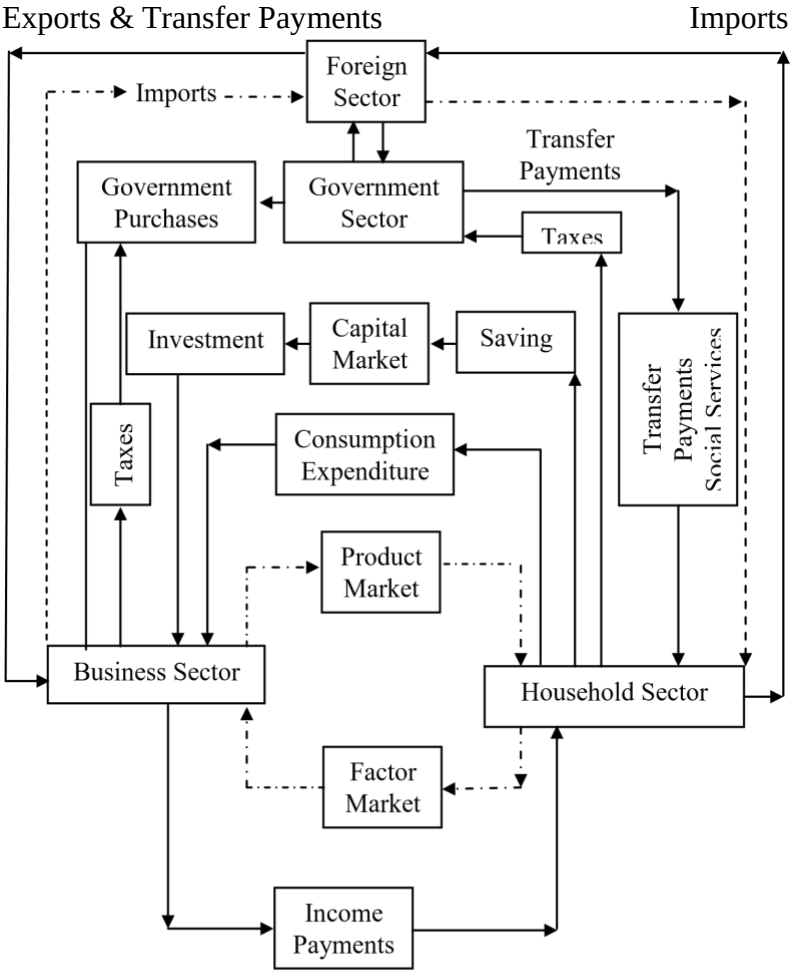


Fig.2.4

Take the inflows and outflows of the household, business and government sectors in relation to the foreign sector. The household sector buys goods imported from abroad and makes payment for them which is a leakage from the circular flow. The households may receive transfer payments from the foreign sector for the services rendered by them in foreign countries.

On the other hand, the business sector exports goods to foreign countries and its receipts are an injection in the circular flow. Similarly, there are many services rendered by business firms to foreign countries such as shipping, insurance, banking, etc., for which they receive

payments from abroad. They also receive royalties, interests, dividends, profits, etc. for investments made in foreign countries. On the other hand, the business sector makes payments to the foreign sector for imports of capital goods, machinery, raw materials, consumer goods, and services from abroad.
These are the leakages from the circular flow.

If exports exceed imports, the economy has a surplus in the balance of payments. And if imports exceed exports, it has a deficit in the balance of payments.

But in the long run, exports of an economy must balance its imports. This is achieved by the foreign trade policies adopted by the economy.

The whole analysis can be shown in simple equations:

$Y= C + I+G \ldots (1)$

Where Y represents the production of goods and services, C for consumption expenditure, I investment level in the economy and G for government expenditure respectively.

Now we introduce taxation in the model to equate the government expenditure

Therefore, $Y = C+S+T \ldots(2)$ Where S is saving T is taxation.
By equating (1) and (2), we get.

$C+I+G =C +S+T$

$I+G=S+T$

With the introduction of the foreign sector, we divide investment into domestic investment (Id) and foreign investment (If) and get

$I_d + I_f + G = S + T$

But $I_f = X-M$

Where X is exports and M is imports

$Id + (X-M) + G = S+T$

$Id + (X-M) = S+ (T-G)$

The equation shows the equilibrium condition in the circular flow of income and expenditure.

Importance of the Circular Flow

The concept of the circular flow gives a clear-cut picture of the economy. We can know whether the economy is working efficiently or whether there is any disturbance in its smooth functioning.

It is with the help of circular flow that the problems of disequilibrium and the restoration of equilibrium can be studied.

The role of leakages enables us to study their effects on the national economy. For example, imports are a leakage out of the circular flow of income because they are payments made to a foreign country. To stop this leakage, government should adopt appropriate measures. So as to increase exports and decrease imports.

Similarly, saving is a leakage out of the spending stream. This depresses the circular flow of income. On the other hand, consumption expenditures are inflows. In leakages exceed inflows, total spending is smaller than output. As a result, income and employment tend to decline over a period of time. On the other hand, if inflows exceed leakages, the spending stream is enlarged in the circular flow. This causes income and employment to rise in the next period.

UNIT -2

CLASSICAL THEORY OF EMPLOYMENT AND OUTPUT

Fundamental ideas of classical Theory

The Classical theory of employment and output revolves round the following fundamental ideas:

(a) There is laissez faire in the economy.

(b) There is always full employment in the economy.

(c) Even if full employment is not found it can be easily achieved through „wage –cut".

(d) Micro concepts such as output and employment decisions of a firm or industry is the same for the economy as a whole also. What solutions are applicable for a micro problem are the same for a macro problems also.

(e) Savings are always equal to investment.

(f) Interest rate is the very important and powerful factor which brings about an equality between savings and investment.

So, based on the above said fundamental ideas, the whole classical structure has been built and we are going to consider each one of the above in detail in this chapter.

1. Laissez Faire Economy or Free Enterprise Economy

The classical economist fully believed in „Laissez Faire". This means „ noninterference by government in the activities of private individual". The citizens of a country have full freedom; to start any business of their choice.

Thus classical had full faith in the invisible hand (Price mechanism) profit motive, free and perfect competition or to use Pigovian terminology "thorough-going competition" and the self adjusting nature of the economic system. They believed that if the economic system is allowed to work without any state interference it would automatically do away with the mal adjustments in the economy if there are, any, and would function smoothly ensuring full employment. So a "free enterprise system" or "capitalist system" was advocated by the classical economists.

2. Perfect Competition

The classical assumed a state of perfect competition and they did not visualize "imperfect conditions" in the market which lead to exploitation of consumers, wastage of resource, artificial restrictions on output and boosting up of prices due to advertisement war, etc. They thought there will always prevail perfect competition or pure competition.

Assumption of Full Employment

Classical economics is based on the assumption of full employment of labour and other resources within an economy. Full employment is a normal situation and any situation of less than full employment (unemployment) is an abnormal one for them. By full employment they meant situation in which there is no involuntary unemployment though there may be frictional, structural and voluntary unemployment. If there exists such unemployment's in an economic system, they feel that it is due to the existence of monopolistic conditions in the industry or state intervention in the free working of competitive situations in the market or it may be

attributed to the imperfections of the market due to immobility of productive factors. The best way to ensure full employment is to follow a policy of "Laissez faire".

3. Resource Allocation

Instead of attempting to explain what determines the volume of employment the classical theory thus assumes full employment, and goes on to explain how a given total volume of resources is allocated in production and how the income derived from production is distributed to the different types of resources participating in production

Say's Law of Markets

Acceptance of full employment as the normal conditions of an exchange economy is justified to classical economists mainly because of J.B. Say's Law of Markets", J.B. Say was an early 19th century French economist. He said, "supply creates its own demand". By this he means every producer who brings goods to market does so only in order to exchange them for other goods. Say assumed that the only reason people work and produce is in order to enjoy the satisfaction of consuming. In an exchange economy therefore whatever is produced represents the demand for another product. Additional supply is additional demand. The analysis is carried on in terms of barter. A producer who normally produces „one table" a day if suddenly produces „two tables" a day by putting in extra effort, then it means his needs have increased and he wants to demand some other consumer item by exchanging this extra table. So every supply create its own demand. Let us consider the operation to this law in a money economy. When a resource is put to work, a product (output) is produced and income is paid to those who contribute to its production. The sales receipts cover cost of production and all factors are willing to accept rewards equal to their marginal productivity.

Say's Law means that there will always be a sufficient rate of spending to maintain full employment. This theory rests on the assumption that income is spent automatically. Even if some proportion of income is saved, it is not an obstacle for full employment. Saving is another form of spending. Saving is spending on producers goods (investment).

In the words of J.B. Say, it is production which created markets for goods, for selling is at the same time, buying and in production men are creating a demand for other goods.
David Ricardo has expressed Say's law as follows: No man produces but with a view to consume or sell, and he never sells but with an intention to purchase some other commodity which may be useful to him or which contributes to future production. By producing them he necessarily becomes either the consumer of his own goods or the purchaser and consumer of the goods of some other person. Production are always bought by productions or by services, money is only the medium by which the exchange is affected".

James Mill states Say's Law thus „Consumption is co-existent with production and … production is the … sole cause of demand. It never furnishes supply without furnishing demand both at the same time and both to an equal extent; in the words of McConnell. The very act of producing goods generates an amount of income exactly equal to the value of goods produced. To give an example, when a car is produced necessary purchasing power equivalent to the price of the car is simultaneously generated in the form of rents wages, interests and profits, which would ultimately lead to its purchase.

6. Pigovain formulation of Say's law

Say's Law of Markets was put in a different form by Pigou. According to Pigou, it labourers are willing to accept wages equal to marginal productivity general unemployment is an impossibility. The base determinant of the volume of employment at any given time is the level of wages. If there is unemployment, i. e., supply of labour exceeds the demand for labour then market wage rates would fall till the supply is equal, to demand and full employment equilibrium is restored. Classical therefore held the view that if

„unemployment" persisted for a long time, then it must be due to wage rigidity and imperfections in labour market.

7. Employment and Output

At a given time, there exists in the economy as a whole a given productive capacity or „productive potential" which refers to the capacity of the nation to produce goods and services. This productive capacity of course varies in the long run when more resources are found out, when technology changes or when population increases. Symbolically it can be expressed as Q= f (N.K.R.T.) where

„Q" stands for productive capacity of the economy „N" stands for the labour force.

„N" stands for the labour force

„R" for the stock of natural resources

„K" for the stock of capital or for man made means of production and

„T" for the level of technology prevailing in the economy.

So productive capacity of a nation is determined by the amount of labour, capital and resources and the prevailing level of technology. The equation above does not indicate in what proportion these are to be combined. It merely shows that productive capacity is a function of or depends on these factors. The actual output produced at a particular point of time however depends on the extent to which these resources are being used, in other words output is the result of the utilization of productive capacity. This is decided by the production function, which shows a functional relationship between the quantity of input used and the quantity of output produced. Symbolically

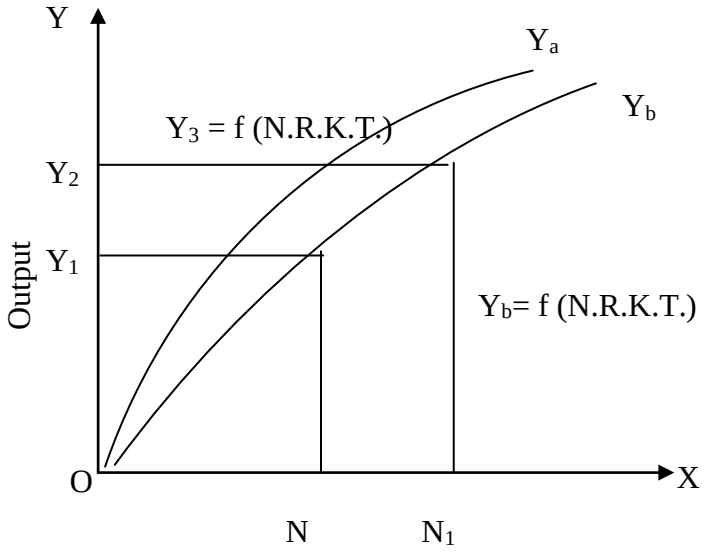
$$Y = f (N.R.K.T)$$

Output produced is a function of labour, resources, capital and level of technology.

Given the stock of natural resources capital, and the level of technology, output or income (Y) is determined by labour input (N) which shows the level of employment. This is shown in the following diagram:

Labour input is measured on the X-axis and output on the Y-axis. The output curve, Y_a slopes upward because of diminishing marginal productivity. When employment increases from N to N_1. output increase from Y_1 to Y_2. But this increase of Y_1 Y_2 can be achieved without any increase in employment, i.e., employment remaining as (ON when the productive curve

itself shifts from Y_a to Y_b), Such a shift of the production curve can take place due to changes in capital stock, natural resources, change in technology or a change in the combination of these variables.



Labour Input (N)

The classical school did not formulate a well defined theory of employment as such, they did not explicitly state their ideas with regard to output and employment. They put forth their views with regard to supply of labour, demand for labour, price level, production and such other individual variables. Later economists built up a theory of employment, and gave diagrammatic illustration of classical ideas with regard to employment as given by modern economists.

Analysis of Classical theory

Classical economists such as Adam Smith and Ricardo maintained that the growth of income and employment depends on the growth of the stock of fixed capital and inventories of wage goods. But, in the short run, the stock of fixed capital and wage goods inventories are given and constant. According to them, even in the short run full employment of labour force would tend to prevail as the economy would to experience any problem of deficiency of demand. On the basis of their theory they denied the possibility of the existence of involuntary unemployment in the economy. The short-run classical theory of income and employment can be explained through the following three stages.

1. Determination of income and employment when there is no saving and investment.
2. Determination of income and employment in an economy with saving and investment
3. Determination of income and employment. Introducing money and prices.

1.Determination of income and employment when there is no saving and investment.

According to the classical theory, the magnitude of national income and employment depends on the aggregate production function and the supply and demand for labour. To show this let us assume that the economy produces one homogeneous and divisible good, say corn. Let symbol K stand for the output of this good.

$$Y = F(K,N) \quad \text{……..(i)}$$

The assumption of constant returns to scale implies that if the factors K and N are multiplied by some positive number □,, output Y will also be multiplied by the same number That is,

$$\square Y = F(\square K, N)$$

In the short run the quantity of fixed capital K, that is, plant and equipment, does not vary. Therefore, with a fixed capital stock, the output Y (or what is also the income) would increase only when the employment of labour N increases. That is employment of labour and output(income) rise or fall together. Now, according to classical theory, with a fixed capital stock as the employment of labour increases, marginal product of labour would diminish.
This is the famous law of diminishing returns of the classical economics.

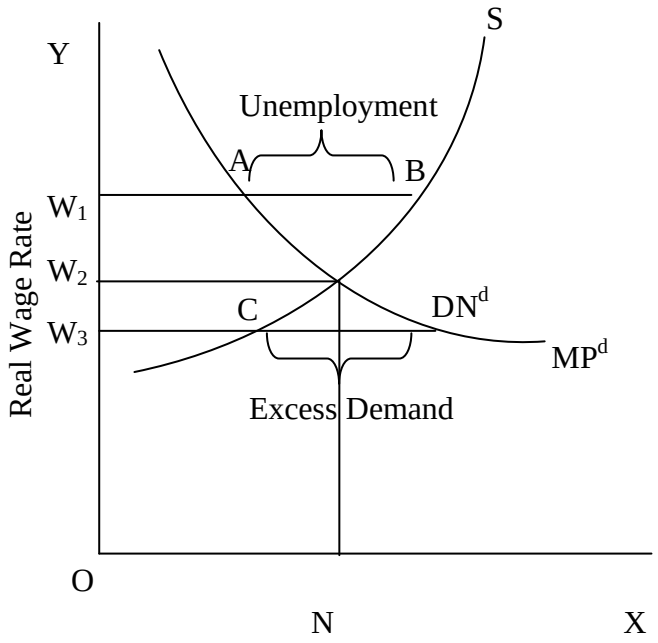


Figure Employment and Wages

The demand for labour is derived from this short run production function that is diminishing marginal product of labour. We assume perfect competition. Further, assuming that the firms which undertake the task of production attempt to maximize profits, they will employ labour until the marginal product of labour is equal to the given wage rate. At the lower wage rate, more labour will be demanded or employed by the firs and vice versa. Thus, the demand curve for labour is derived from the marginal product curve of labour. In fact, the former coincides with the latter. Consider Figure where MP curve depicts the diminishing marginal product of labour with a given stock of fixed capital. As explained just above, MP curve of labour also represents the demand curve of labour N_d.

How much output will be produced in this full employment situation can be known form the production function. We depict this in Figure 5.3 where in addition to the supply of and demand for labour, the production function (OY) representing the relation between employment of labour (N) and total output (Y) is shown. It will be seen from the lower-panel of Figure that, given the stock of fixed capital, employment of ON labour produces OY output. This output OY of corn will constitute the income of the society and will be distributed between wages and profits it will be seen from the upper panel of Figure 5.3 that total wages are equal to the area ONEW and that profits WED. Thus sum of wages ONEW as reward for labour and total profits WED as reward for capital would constitute the total income of the society (and would be equal to the social output OY produced).

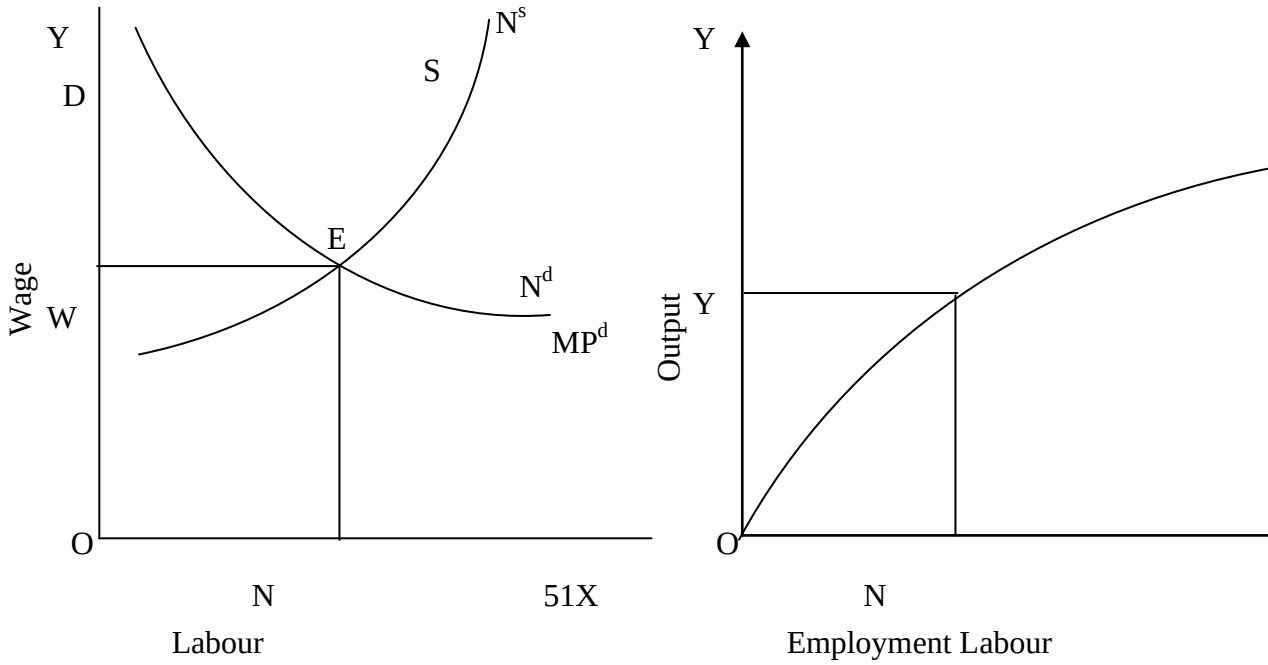


Figure Determination of Employment and Output

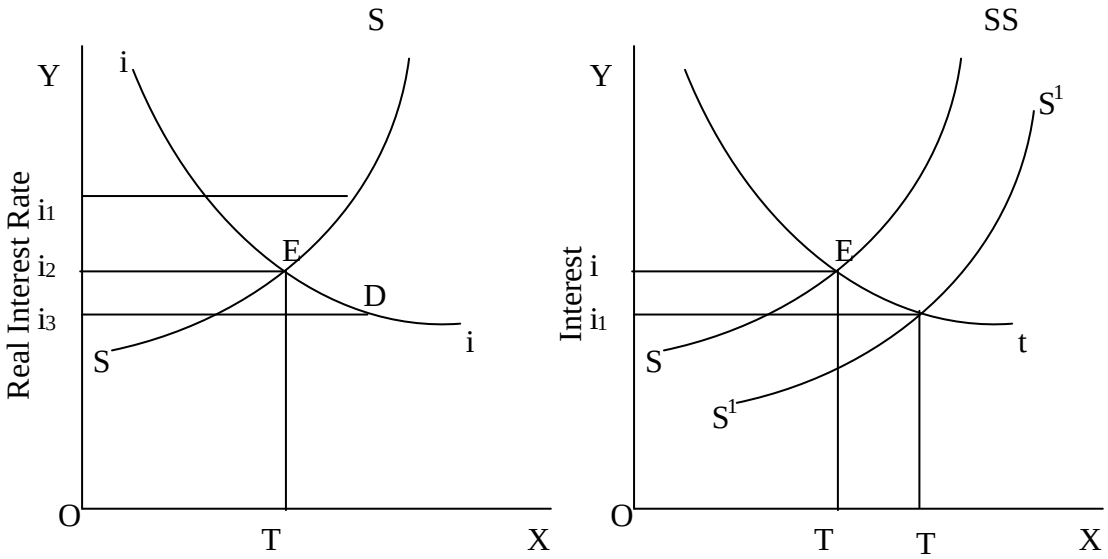
It follows from about that the quick changes in the real wage rate upward or downward ensures that neither excess supply of labour, nor excess demand for labour will persist and thus equilibrium will be reached with full employment of labour in the economy. Further, given the stock of capital, with this full employment of labour, output and income of the economy equal to OY are determined.

In the absence of saving and investment which we are assuming here, classical economists ruled out the possibility of deficiency of aggregate demand on the basis of Say‟s law. Say‟s law, as mentioned above, states that supply creates its own demand, that is, acts of production of goods create demand equal to the value of output of goods produced. Factors of production earn their incomes during the process of production. Since no part of income is saved as is being assumed here the entire income will be spent on consumer goods produced. Value of output produced will therefore be equal to the income generated in the process of production. Thus, quantity demanded will be equal to the supply of output produced. In Fig. wages earned by ON quantity of labour employed and profits earned by the entrepreneurs will be spent on OY output Expenditure so made will be equal to the value of output produced.

Aggregate demand being equal to aggregate supply, there is no problem of deficiency of demand Say‟s law that “supply creates its own demand” holds and full employment of labour is guaranteed. In this way classical theory denies the possibility of involuntary unemployment. It needs to be emphasized that under such conditions, two things ensures full employment. First, it is because saving and investment are excluded from the system so that entire income is spent on consumer goods. Second, real wage changes quickly to bring about equilibrium between demand for and supply for labour.

2.Determination of income and employment in an economy with saving and investment

In applying Say‟s law that supply creates its own demand an invalid assumption was made above that entire income earned by the households will be actually spent. Although it is correct that production of an output generates equal amount of income but what is the guarantee that all income earned by factors/ households will be actually spent on goods and services produced in fact, a part of income might be saved. Saving represents a withdrawal of some income from the expenditure flow. This will result in deficiency of demand or expenditure on output of goods produced. Thus, if a part of income is saved (that is, not spent), supply of output produced would not create sufficient demand for itself. This will cause deficiency of aggregate demand which will cause fall in output and employment and the emergence of involuntary unemployment.



(a) Saving and Investment (b) Saving and Investment (S=1)

Figure Changes in rate of interest bring about equality between saving and investment

However classical economists denied the possibility of deficiency of aggregate demand even when apart of income is saved by the households. They showed that Say's law that supply creates its own demand holds good even in the presence of saving. They argued that for every rupee saved by households will be invested by businessmen, that is investment expenditure will be equal to savings done by households. In fact, output produced consists of consumer goods and capital goods. Income earned from production will be partly spent on consumer goods and partly on investment in capital goods. What is not spent on consumer goods is saved and investment expenditure made by businessmen equals this savings. Therefore, there is no deficiency of demand or expenditure and circular flow of income goes on undisturbed. Thus, supply goes on creating its own demand and Say‟s law applies.

Now the pertinent question is what is the guarantee that investment expenditure will be equal to savings of the households. According to classical economists, it is the changes in the rate of interest that brings about equality between saving and investment. Further, according to them, rate of interest is determined by supply of savings and demand for investment. The investment demand is stipulated to be decreasing function of the rate of interest. At the lower rate of interest, more would be borrowed for investment. On the other hand, the savings of the people are taken to be the increasing function of the rate of interest, that is, higher the rate of interest, the larger the savings and vice versa. The loan market will be in equilibrium at the rate of interest at which the demand for investment is equal to the supply of savings. The changes in rate of interest would cause investment and supply of saving to become equal.

It follows from above that the equality between investment and savings, brought about by changes in the rate of interest, would guarantee that the aggregate demand for output would be equal to aggregate supply of output. Thus, the problem of deficiency of aggregate demand would not be faced and full employment of labour will prevail.

3. Determination of income and employment.

Introducing money and prices.

Now, we shall examine how full employment of labour is assured in the classical theory even when assumption of the barter economy is dropped and money is introduced in the system. The introduction of money does not affect the result of the classical theory that problem of deficiency of aggregate demand would not be experienced by the free market system and therefore full employment of labour is guaranteed. The quantity of money, according to the classical theory, determines only the price level of output and in no way affects the real magnitudes of savings and investment.

Now, since quantity of money determines the price level of ouput, it also affects real wage. It is important to note that the real wage is the ratio of money wages and the price level, that is.

$$\text{Real wage } (W_R) = \frac{W}{}$$

)
=

$\overline{P}$

Where, W = Money wage

P = Price level

To begin with, suppose given a certain quantity of money and consequently a price level, labour market is in equilibrium at a certain real wage rate determined by demand for and supply of labour. As explained above, full employment of labour would be prevailing in this situation. Now, if quantity of money increase, according to the classical theory, it will cause a proportionate increase in the price level of output. This is because according to classical theory real output remains unchanged at the level of full employment of labour.
With output remaining the same, increase in money causes only price level to rise.

This follows from Fisher"s equation of exchange of the quantity theory of money. According to this, MV = PY

MV= PY

MV

or P

$\overline{Y}$

Where P is the price level, M is the quantity of money. V is the velocity of circulation of money, Y is the aggregate output or Gross National Profit (GNP). It may be noted that the velocity of circulation of money is the number of times a unit of money is used for purchasing final goods and services. In classical they V is assumed to be constant because it depends on people"s stable habits of holding money and the given modes of payments of wages and salaries. Further, they assume that the aggregate output or gross national product (that is, Y in the equation of exchange) remain constant at full –employment level because they believed full–employment prevailed in a free market economy in the long run always.

According to the classical theory, money performs the function of merely a means for exchange of goods and services and is therefore demanded only for transaction purposes. This means alternative to holding money is the purchase of goods and services. Therefore, demand for and supply of money in the classical system does not determine the rate interest. When the quantity of money increases, it will leave the rate of interest unchanged and hence the amount of output saved and allocated to

investment (i.e. real savings and investment) will remain the same. This means the increase in money does not disturb the saving – investment equality and consequently the continuation of full employment equilibrium.

Application of the Classical Model

1. In the classical system if supply of labour increase then it causes money wage to fall, employment and hence output increase.
2. An upward shift in the production function to larger demand of labour at every value of W/P output increases.
3. Suppose there is an increase in money supply, this leads to unwanted money balances.
4. Assuring both supply of labour and productivity of labour increase together, then output grows and prices fall. But whether real wage increases or decreases depend on whether labour supply grows faster or less rapidly than labour productivity.
5. If marginal productivity of investment increases then it raises investment function. This leads to higher interest rate along with higher investment and saving. However output and employment remain unchanged.

Criticism of Classical Analysis

Classical school considered a frictionless society. Many obstacles like presence of trade unions, minimum wage legislation, industrial monopoly, imperfect situations etc., were completely ignored. The fact of the modern world is such that it is full of such artificial obstacles and, as such cannot accept classical ideas as policy prescriptions for its present problems. In the modern world none of the variables especially wages are flexible. There is continuous change in technology, tastes, labour supply and so on. Immobility of factors of production imperfect information on costs and their business conditions, Government interference etc. are the characteristic features of today‟s economy. These conditions no doubt, invalidate certain results of classical theory.

All the classical concepts were severely and vehemently criticized by Keynes for their inapplicability to macro economic problems and for their irrelevance in modern changed context. The criticism leveled against classical ideas will be discussed in detail in the next chapter before passing on to Keynesian theory of employment. So critical evaluation of classical ideas is postponed fro time being one fundamental mistake made by the classical school which invalidate majority of their contributions is that of application of micro principles to macro problems. They failed to integrate money market with value to real market. They failed to think about possibility of rigidities in economic system. They failed to visualize „artificial‟ hindrances in the smooth working of the market. They had too much reliance on the automatic and self adjusting characteristic of the economy.

Thus contribution of classical school to the theory of employment and output, though great by itself is inapplicable, and irrelevant to modem economic problems. Keynes in his renowned book "General Theory" severely criticized the classical theory of employment. He criticized Say"s law, especially the views of Pigou that a general cut in wages, during depression and unemployment will restore full employment in the economy. As we have said above, according to Say"s law, every supply or production creates its own demand, as a result of which problems of over production and unemployment do not arise it is, of course true that supply"s creates demand for goods because the various factors which are employed in productive activity earn incomes from it, which are in turn spent on goods. For example, when factors of production are employed in production cloth then the incomes in the form of wages, rent interest and profits accrue to them which they spend on various goods. But from this it does not follows that the supply of production will create its entire demand. The incomes earned by the various factors of production are equal to the value of output produced, but this does not mean that the whole income received by the factors of production will be spent on goods and services. A part of the income is saved and the saved part does not necessarily create demand for goods and services, if entrepreneurs do not invest equal to the desired savings, then aggregate demand which consists of demand for consumer goods and capital goods, will not be enough to purchase available supply of output. Hence, if aggregate demand is not sufficient to purchase available supply, the producer would be unable to sell their whole output due to which their profits would decline and a result of which they would reduce their level of production giving rise to unemployment in the economy.

In a given period, consumers spend a part of their income on consumption and the rest they save. Likewise, in a period, the entrepreneurs plan to spend on factories and machines, that is, they plan to invest. Aggregate demand is sum of consumption demand and investment demand. But in a free enterprise capitalist economy, the persons who save are often different from those who invest and further that the factors that determine savings are different from the factors which determine investment by the entrepreneurs. People save to provide for their old age, to accumulate money for education and marriage of their children, but investment by entrepreneurs depends upon marginal efficiency of capital (that is, expected rate of profit), rate of interest, population growth and technological progress. We thus see that there is no such mechanism in a free enterprise economy which guarantees that investments made by the entrepreneurs are equal to the savings by the people. Desired savings by the people are generally not equal to the desired investment by entrepreneurs. If the desired investment by entrepreneurs falls short of the amount of savings at fullemployment level of income, the equilibrium of the economy will be at less than full employment level and as a result of which unemployment will emerge in the economy. In this way, according to Keynes, there is no reason that sum of consumption expenditure and investment expenditure is necessarily equal to the value of output produced. In other words, there is no guarantee that aggregate demand will be equal to aggregates supply forthcoming at full employment level of resources. Hence, it is not necessary that the

economy will be in equilibrium at the level of full employment. This invalidates Say‟s Law, since according to Say‟s Law over-production and unemployment cannot occur.

Keynes also criticized Pigou‟s view that a general cut in wages in times of depression will remove employment and that the full employment in the country will be achieved. According to Keynes, a general cut in wages will not bring about increase in employment because the reduction in wages will reduce the aggregate demand for goods. Keynes put forward the view that wages are not only the costs of production, they are also incomes of the workers which constitute the majority of the population of the country. As a result of a general cut in wages, the income of the workers will fall due to which aggregate demand will decline. As a result of decline in aggregate demand, level of production will have to be reduced and less labour will have to be employed than before. This will crate more unemployment rather than reducing it. No doubt, as a result of a general cut in wages, cost of production of industries will fall but with the fall in costs, "the demand for the products will not increase because due to the all –round cut in wages, purchasing power of the working class will decreases. Hence an all-round cut in wages will reduce the level of employment by reducing aggregate demand and will thus deepen the depression. There is a fundamental difference between Keynes and Pigou in respect of the relationship between wages and employment. Pigou thought that level of employment in economy depends upon the level of money wages and therefore reduction in money wages will promote employment. On the other hand, Keynes thought that the level of employment depends upon the aggregate demand and the aggregate demand declines as a result of an all round cut in money wages. According to Keynes, even if the wage rates are perfectly flexible, the unemployment will prevail in the economy if the aggregate demand is deficient.

Classical economists thought that a general cut in wages would reduce the cost of production of various industries but the y ignored the fact that a general cut in wages will also reduce the incomes of the people. In view of the fall in incomes and aggregate demand how will manufactures be able to sell their whole output? It is the sales of output that makes the wheel of trade, output and employment going. However, note that the classical theory is valid in the case of an individual industry. With the decline in wages, the cost of the industry will decrease and as a result the prices of its product would fall. The industry will be able to sell a larger amount of output at a lower price because it is not necessary that the goods produced by the industry are to be purchased by the workers employed in that industry whose wages have been reduced. But in the case of the economy as a whole, this is not valid because a general cut in wages will reduce the incomes of the working class and as a result enough demand will not be there for the output produced by the whole economy. This deficiency in demand will reduce the demand for workers as a result of which unemployment will spread among them. The fundamental flaw in Pigou‟s analysis is that he applied partial equilibrium analysis, which is valid in the case of in individual industry, to the determination of income and employment in the whole economy. The determination of the level of aggregate income and employment in the economy should be explained with the aid of general

equilibrium analysis rather than with partial or particular equilibrium analysis of micro-economics.

Because of the above-mentioned shortcomings of the classical theory, there was a need for development of new theory which could provide a correct explanation of the determination of income and employment in the economy. Capitalist economy cannot automatically attain a state of full employment. Keynes in his famous work "General Theory of Employment, interest and Money" not only criticized the classical theory but also propounded the new one which is still regarded as valid and correct.

UNIT -3

KEYNES' THEORY OF EMPLOYMENT AND OUTPUT

Keynes' theory of employment and output determination marks not only the starting point of macro economic theory as a separate branch of Economics but also challenged all the tenets of the traditional classical theory. So much so, it came to be known as the Keynesian Revolution. The essence of Keynesian Revolution lies in his ability to explain that the employment-output relationship of an economy depends upon the level of effective demand which is determined by the forces of aggregate supply and aggregate demand.

Aggregate Supply

The aggregate supply refers to the amount necessary to make entrepreneurs to hire or employ the required number of men and materials to produce the necessary output. Keynes related the schedule of aggregate supply prices to the different levels of employment in his . General Theory of Employment. According to Keynes the aggregate supply price at a given level of employment is the minimum of proceeds which they must get to make it worthwhile to employ that number of workers. Keyenes' Theory of Employment and Output

TABLE 1 THE AGGREGATE SUPPLY SCHEDULE

Illustration I		**Aggregate supply Price**	**Illustration**	
Employment (N)	**Money Wages (W)**		**Money Wages (W)**	**Aggregate Supply Price**
10	5	50	5.00	50
20	5	100	5.10	102

30	5	150	5.20	156
40	5	200	5.30	212
50	5	250	5.40	270
60	5	300	5.50	330

Illustration I shows aggregate supply price when money wages remain fixed. Illustration II shows aggregate supply price when money wages change along with the increase in the demand for labour. Figure 1 shows the shape of the two aggregate supply curves drawn for the assumption of fixed money wages and variable wages.

AGGREGATE SUPPLY CURVE.

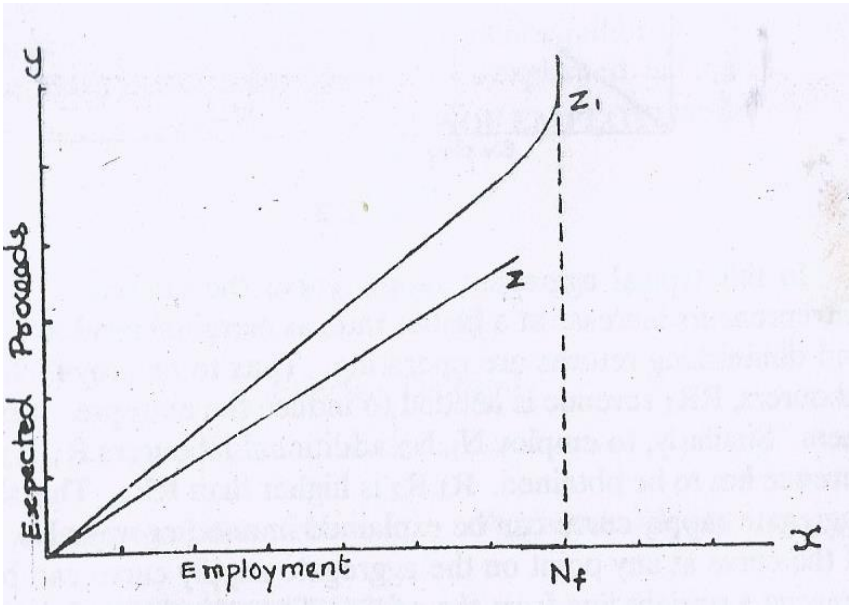


FIG.

Z curve is linear where money wages remains fixed; Zi curve is non linear since wage rate increases with employment. When full employment level of Nf is reached it is impossible to increase output by employing more men. So aggregate supply curve becomes inelastic (Vertical straight line).

The slope of the aggregate supply curve depends on the relation between the employment and productivity. The capital stock is often fixed and hence the law of diminishing returns takes effect as more workers are employed. Based upon this the aggregate supply curve can be expected to slope upwards. In reality the aggregate supply curve will be like Zi in figure 1.

Important conclusions can be drawn from the shape of the aggregate supply curve.

EMPLOYMENT OUTPUT RELATIONSHIP

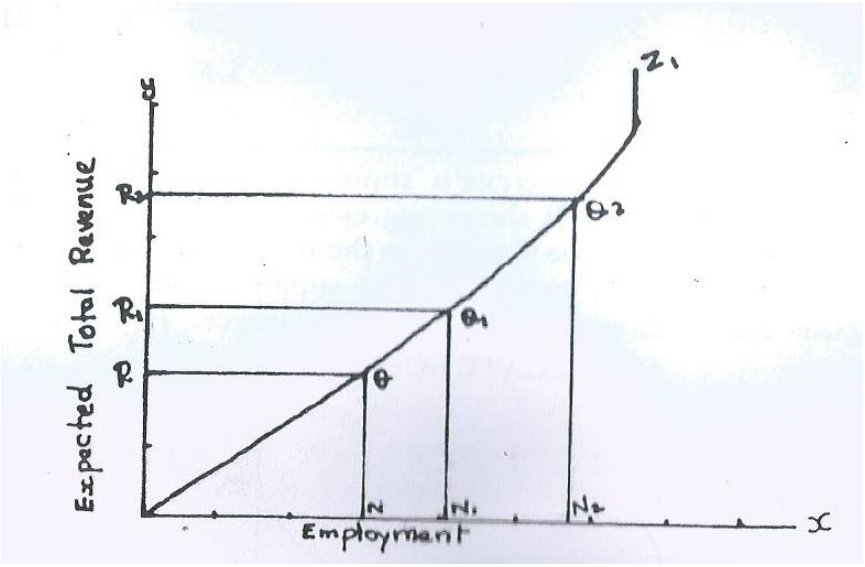


Fig.

In this typical aggregate supply curve the expected returns of the entrepreneurs increase at a higher rate, as marginal productivity is falling and diminishing returns are operating. Thus to employ NN1 additional labourers, RRi revenue is needed to induce the entrepreneurs to employ them. Similarly, to employ. 01 N2 additional labourers Ri R2 additional revenue has to be obtained. R2 is higher than RR'. This shape of the aggregate supply curve can be explained in another way also. The slope. of the curve at any point on the aggregate supply curve can be found by drawing a straight line from the origin.

Aggregate demand

In the Keynesian model, output is determined mainly by aggregate demand. Time theory of aggregate demand was Keynes' central contribution. The aggregate demand is the amount of money which entrepreneurs expect to get by selling the output produced by the number of labourers employed. Therefore, it is the expected income or revenue from the sale of output at different levels of employment. According to Keynes, "The aggregate demand function relates any given level of employment to the expected proceeds from that level of employment" 'Cubic 2 show I he aggregate demand schedule.

TABLE 2

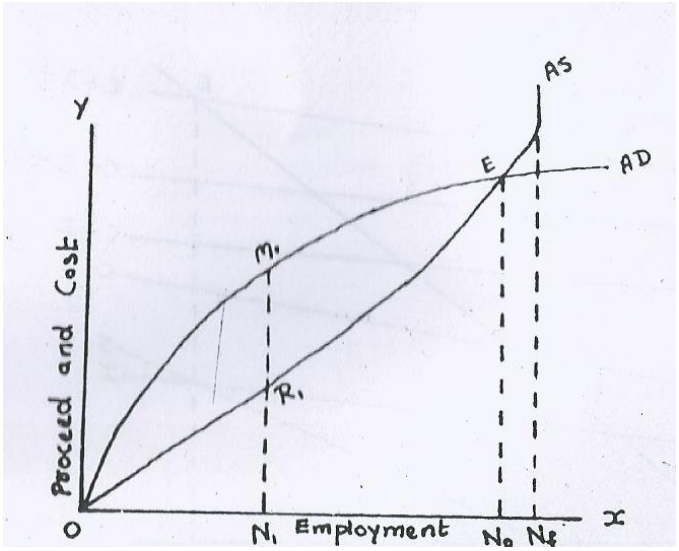
AGGREGATE DEMAND SCHEDULE

Employment	Expected Revenue
10	90
20	140
30	200
40	240
50	270

60	300

The aggregate demand schedule reveals that as the level of employment increases, the expected proceeds also increase. Thus when 20 man Ara employed the expected proceeds are 140 and when 50 ;Ire employed It Is 770, According to Keynes aggregate demand function is an increasing function of the level of employment. The aggregate demand as drawn on the basis of the given schedule will slope upward

AGGREGATE DEMAND



Keynes' concept of aggregate demand was the expected proceeds by selling the output produced at each level of employment. Therefore, aggregate demand would be equal to the amount people would spend on that output. In short aggregate demand would be the 'sum total of expenditures of different segments of an economic system.

Effective Demand

Dillard says that the logical starting point of Keynes' theory of employment is the principle of effective demand. Effective demand is the crucial concept in Keynes' theory of employment. Effective demand may be explained in simple terms as that point where aggregate demand is equal to aggregate supply i.e., what the entrepreneurs expect to get by selling the output at a particular level of employment is exactly equal to the minimum proceeds they should get to cover the

cost they had incurred. The concept of effective demand is more clearly shown in Figure .

EFFECTIVE DEMAND

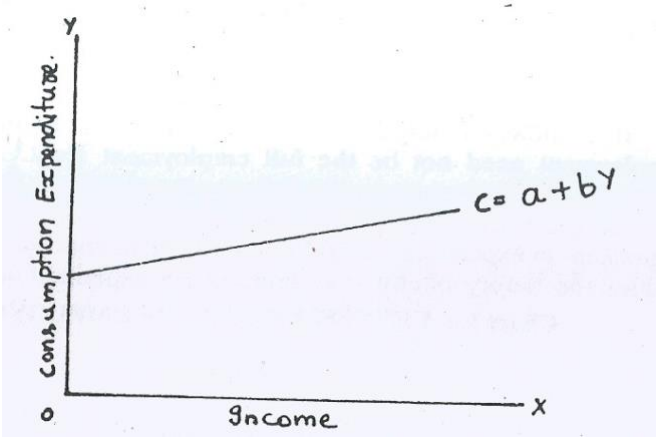


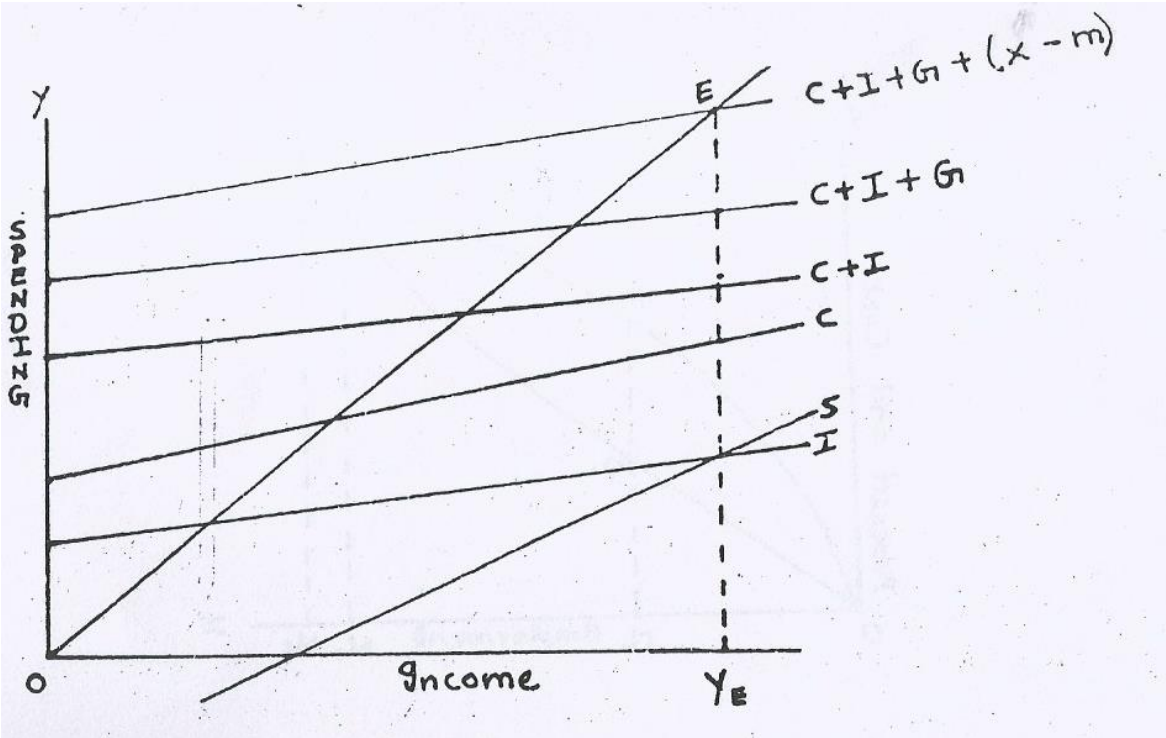
FIG.

The aggregate demand is equal to aggregate supply at E giving rise to ON_o employment. What the entrepreneurs expect to receive for the output produced by ONo men (shown by AD curve) is exactly equal to the minimum proceeds they must get for this output to cover their costs (AS curve). Hence aggregate demand becomes effective enough to exactly clear the output. The aggregate demand at point E alone is effective demand. At this point entrepreneurs are fully satisfied to clear their entire output. The economy is in equilibrium at ONO employment.

Aggregate Supply

As the Chart I shows, the level of output depends upon the level of employment which is determined by the level of effective demand. The level of effective demand depends upon the twin forces of aggregate supply and aggregate demand. Keynes explained that aggregate supply is constant in the short run. Therefore, aggregate demand becomes the active determinant of the level of employment in the short run.

Aggregate Demand represents the total expenditures of the different sections of the community. The major component is the consumption expenditure. Keynes with his famous psychological law of consumption function stated, that consumption increases as income increases but the increase in consumption will be less than the increase in income. Similarly even if incomes were to be zero, some consumption expenditure will take place out of dissaving atleast. Hence the consumption function will be of the type C = a + bY as shown in figure



The second component of aggregate demand is the investment expenditure which depends upon two major factors viz., marginal efficiency ‘of capital and the' rate of interest.

Interest rates affect the cost of investment. If other factors remain unchanged higher interest rates will reduce investment and lower interest rates will stimulate investment. Interest rates depend upon the supply of money which is determined by the central bank. So sudden changes cannot be expected here. The other factor that determines interest rate is the demand for money. Keynes described three types of demand for money viz., transactions, precautionary and speculative demand for money.

$$Y = C + I$$

This is the aggregate demand in a two sector economy. If the real model of an economy is considered government expenditures represent a sizeable amount. Hence aggregate demand of a three sector economy would be Y = C + I + G.

If we give up the assumption of closed economy and include foreign trade, exports represent inflow of income and imports represent outflow. Hence foreign trade sector can be represented as X - M. Thus to a four sector model, aggregate demand would be equal to Y=C+I+G+ X - M

The four components of aggregate demand are shown in figure 6.

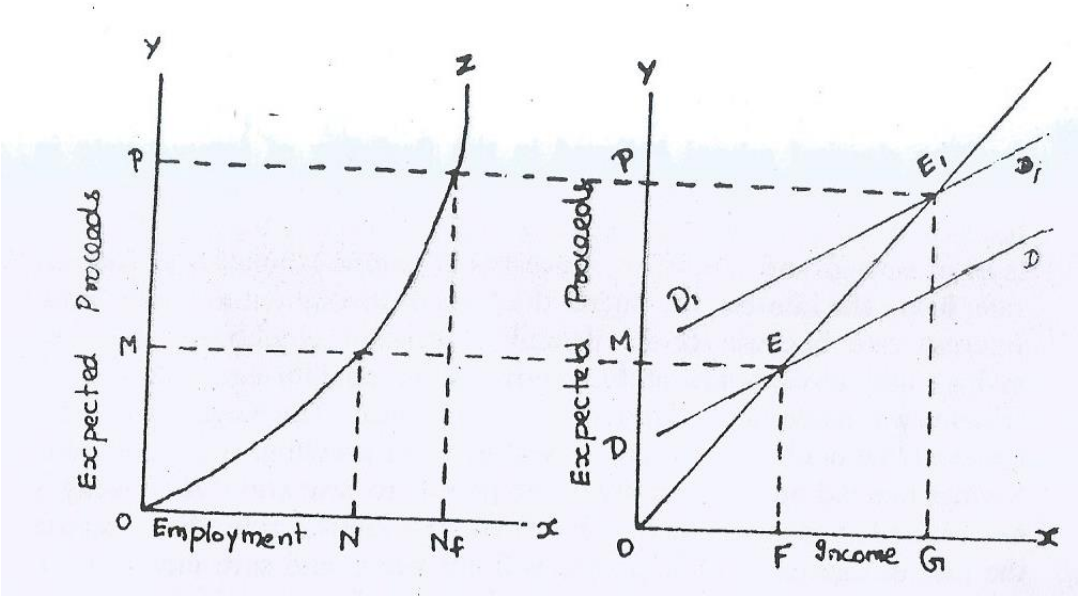
COMPONENTS OF AGGREGATE DEMAND

When all four components of aggregate demand are taken into consideration to find out the macro equilibrium., the 45° line is drawn to help in identifying the equilibrium. The 45° line has the useful property that it lays down in the vertical direction a distance equal to the output shown on the horizontal axis.

So at any point on the 45° line the total spending C +I + G + X - M (measured vertically) exactly equals the total level of output and income (measured horizontally).

In figure 6, only when the desired amounts of spending as represented by C + I + G + X - M curve equals the total output in the economy at point E, the economy is at equilibrium. At this point saving is also equal to investment as shown by the intersection of Investment (I) and saving curves (S). No doubt E is the point of equilibrium but this need not assure a full employment level. An under employment equilibrium as a possibility was the major contribution of Keynes' theory of employment which is shown in Figure .

UNDER EMPLOYMENT EQUILIBRIUM



When the economy is at-equilibrium at E, it results in an employment of ON. If Nf is the full employment level, then N-Nf unemployment occurs at this level of aggregate demand shown by curve D. Only if the people are willing to spend more for the full employment output of OP, or only if the aggregate demand rises to D_1 will there be full employment. Thus a rise in aggregate demand curve from DD to D_1 D_1, moves equilibrium to E_l and ON_f men are employed resulting in full employment.

Other ways to increase expenditure were also suggested such as :

- reducing personal taxes which will make individuals increase their consumption expenditure.

- to reduce corporate income taxes which would encourage investment spending by firms.
- reduce the interest rates which might stimulate both consumption and investment.
- increase the import duties so that imports would be discouraged and consumption of domestic goods would be stimulated.
- reduce taxes and interest rates for exporters thus stimulating the demand in the foreign sector.

However all these measures take time to be implemented and even then there is no assurance that the required increase in aggregate demand will materialise. Therefore, increase in public expenditure becomes the assured way of raising aggregate demand. With this explanation of the level of economic activity in terms of effective demand, Keynes pointed out the major threat to the capitalist economy i.e., the possibility of an under employment equilibrium due to deficiency of aggregate demand. His theory also showed the inability of the capitalist econoni06 come out of this problem without governmental interference. This was a ringing challenge to the classical belief of an automatic mechanism bringing about the equilibrium around full employment level through wage-price flexibility.

Keynes also repudiated Say's law of markets with his idea of effective demand which proved that supply need not create its own demand. The concept of effective demand clearly established that whatever is produced is not automatically consumed. Similarly the whole income is not always spent at a rate which will keep the factors of production fully employed.

The concept of effective demand also gives a ray of hope to developing countries. The gap between income and consumption will not be so big in developing countries as in the case of developed countries. Herein lies the hope of eradicating unemployment in smaller capitalist countries, with easy investment expenditure which is bound to yield quick results.

To conclude, the concept the effective demand lies at the root of Keynes' theory of employment. Even before Keynes, economists like Mathus had attempted to explain the significance of demand. But they failed to explain how demand can be deficient or excessive. Hence the credit goes to Keynes who for the first time put forward a systematic theory of unemployment based on the principle of effective demand. Comparison and contrast between Classical and Keynesian Contribution The classical economy believed in laissez faire or free enterprise system. But the Keynesian school believed in government intervention. Full employment was! the assumption of the classical economy. Even when there are deviations, the economy would reach to full employment automatically. But to Keynes full employment is a distant goal and unemployment is the reality.

The classical believed in perfect competition. But to Keynes perfect competition is not a reality and market is characterised by imperfections.

There is invisible hand or flexible price mechanism that would ensure maximum production and easy allocation of resources to the classical.

There are no such invisible hands or automatic price mechanism which ensures the welfare on one and all in the society.

In the classical system there is automatic self adjusting character. BUt the Keynesians believe that if such a force is there depressions and ,booms can easily be avoided and fluctuations can be averted.

The classical contributions constitute the core of micro economics. They studied 'Micro elements' and implicitly believed that the rules and Principles that govern micro problems are completely valid for macro problems too and there is no need for a separate theory of macro problems. Keynesian contributions relate to macro problems. Micro problems are different from macro problems. Macro is not a mere addition of micro elements. The nature, magnitude and intensity of macro problems vary from that of micro problems.

The classical school assumed that the wages are flexible downwards and full employment can be easily achieved. It believed that workers will accept a lower wage and wages are flexible both ways. Wage flexibility is not found in Keynesian economy particularly the downward flexibility of wages due to the presence of strong trade union, More over any wage cut will affect consumption function and effective demand. So for Keynes, wage cut is not an advisable policy for removal of unemployment or for reaching full employment.

Money plays a passive role for the classicals. It functions only as a medium of exchange. The store of value function of money was not given due attention. Moreover money cannot be kept for ever as liquid cash. Either it should be spent on consumption or invested immediately. But to Keynes money is demanded for three motives -viz., (a) transaction (b) precaution (c) speculative. The last one refers to the saving aspect of money. No asset is as liquid as cash. If interest rate is low people may keep money in the form of idle cash than in the form of bonds,. and shares. Expectations about future changes in interest would influence the level of investment, employment and output in the economy.

The classical economists never attempted to integrate the theory -of value with the theory of prices and money. The classical economists believed that the real market is different from .the money market. short they believed in the dichotomy between real market and money market. But Keynes by inventing the concept of speculative demand kir money successfully integrated the theory of value with the theory of prices. Both money and real markets are interdependent and not independent. Money plays a very active role and "'liquidity' preference" has a major impact on the level of investment and other variables in the system. The differences between Classical and Keynesian economics can be represented in the form of an equation.

$$Y = f(N) \qquad (1)$$

The first equation says, that both for classicals and Keynesians output is the function of employment 'Y' stands for output or income and `N' stands for employment.

Level of employment is a function of real wage for the classicals

$$N = f(W/P) \qquad (2)$$

Where 'N' refers to employment, 'W' refers to money wages and P refers to price level. But for Keynes

$N = f(W)$ i.e,

employment is a function of wage but not real wage. It i- a function of money wages. Real wage in turn is determined by Marginal Physical product of labour for the classicals.

$$W/P = MPPL \ , \qquad (3)$$

Where W/P stands for real wages and MPPL for the marginal physical product of labour. But for Keynes wages are inflexible especially in the downward direction, and therefore W = Wo Where W refers to current wage which is rigid and to represent the rigidity it is put Wo.

saving is a function of interest for classical

$$S = f(i) \qquad (4)$$

Keynes it is a function of income

$$S = f(Y)$$

Investment is a function of interest rate for classicals.

$$I\text{- } f(i) \qquad (5)$$

Where 'I' stands for investment and `i' stands for interest rate. But for Keynes it is a function of M.E.C. and to a minor extent rate of interest.

$I = f(MEC, i)$

Savings are always equal to investment for classicals.

$$S = I \qquad (6)$$

For Keynes savings could also be greater than investment or less than investment.

$S > I$