LESSON 1
MACRO ECONOMICS NATURE AND IMPORTANCE

Contents

1.10 Aims and objectives

In this lesson we study about the nature and importance of Macro Economics. Definition, scope and importance of the subject will be discussed. This lesson gives an idea about the subject matter of Macro Economics and how it is useful to business management.

1.1 INTRODUCTION

The term "Macro" was first used in economics by Ragner Frisch in 1933. Mercantilists and physiocrates of 16th and 18th centuries were also adopted it in their theories Matheor, Sismondi and Marx in the 19th century dealt with Macro economic problems. Walras, wicksell and Fisher were the modern contributory to the development of Macro economic analysis before Keynes. J.M. Keynes has used the Macro method extensively in his writings. Macro, Greek word mear large. So Macro economics is the study of large or aggregates of the entire economy.
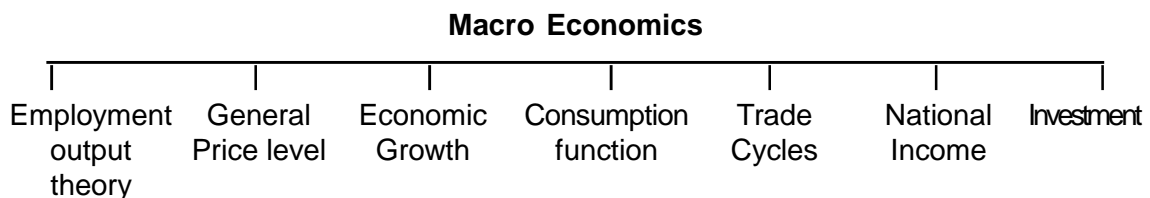
1.2 NATURE OF MACRO ECONOMICS

Macro economics is the study of aggregates or averages covering the entire economy, such as total employment, national income, national out put, total investment, total consumption, total savings, aggregate supply, aggregate demand and general price level, wage level and cost structure. In other words, it is aggregative economics which examines the interrelations among the various

aggregatives, their determination and causes of fluctuations in them. According to 'Edward Shapiro Macro economics in its briefest is the study of economy's total output, employment and the price level. In the words of Ackley, "Macro economics deals with economic affairs in the large. It concerns the overall dimensions of economic life. Bouldings says, "Macro economics does not deal with the individual quantities or incomes but with the aggregates of these quantities, not with individual incomes but with the national income, not with individual prices, but with the general price level, not with individual output but with the national output.

Macro Economics is also known as the theory of income and employment, or simply income analysis. It is concerned with the problems of unemployment, economic fluctuation inflation or deflation, international trade and economic growth. It is the study of the causes of unemployment and the various determinants of employment. In the field of business cycles, it concerns itself with the effect of investment on total output, total income and aggregate employment. In the monetary sphere it studies the effect of total quantity of money on the general price level. In international trade, the problems of balance of payments and foreign aid fall within the purview of macro Economic analysis. Above all, Macro Economic theory discusses the problems of determination of total income of a country and causes of its fluctuction. Finally, it studies the factor that retard growth and those which bring the economy on the path of economic development. Both Micro Economics and Macro economics involve study of aggregates. But aggregation in Micro Economics is different from that in Macro economics. In Micro economics the inter relationship individual householdes, individual firms and individual industries to each other deal with aggregation. Thus Micro economics uses aggregates retailing to individual householdes, firms and industries, while Macro economics uses which relate them to the economy wide total. Macro economics not only deal with great aggregates and averages of the system as a whole but also attempts to define these aggregates in a useful manner and to examine how they are related and determined.

1.3 SCOPE AND IMPORTANCE

National Income, gross National product, total consumption total savings, that investment, aggregate demand, aggregate supply, percapita income, standard of living of the people, total employment, trade cycles, inflation etc form the subject matter of Macro economics. It studies the forest as a whole and not individual trees or as Micro economics according to professor Ackley. As it studies the behaviour of the aggregates, it is also known as the Aggregative method. The scope and subject matter of Macro Economics can be shown as below.

Macro Economics

| Employment output theory | General Price level | Economic Growth | Consumption function | Trade Cycles | National Income | Investment |

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

To understand the working of the Economy : The study of Macro economic variables is necessary for understanding the working of the economy. Total income, out put, employment are stastically measurable, there by facilitating the possibilities of analysing the effects on the functioning of the economy.

In Economic policies : Macro economics is extremely useful from the point of view of economic policy. Especially underdeveloped economies are confronted with so many national problems like overpopulation inflation, deficit in the balance of payments, general under production etc. The main responsibility of the governments rests in the regulation and control of these problems. No government can solve these problems interms of individual behaviour. So the study, of Macro economics is useful for the solution of these complex economic problems.

In general unemployment : The Keynerian theory of employment is an exercise in Macro economics. The level of employment in an economy depends upon effective demand. Which in term depends on aggregate demand and aggregate supply. Unemployment caused by deficiency of effective demand. To eliminate unemployment, effective demand should be raised by increasing total investment, total output, total income and total consumption. Thus Macro Economics has special significance in studying the causes, effects and remedies of general unemployment.

In National Income : The study of Macro Economics is very important for evaluating the overall performance of the economy interms of National income. From the Great depression of the 1930s, it became necessary to analyse the cause of general over production and general unemployment. National income data help in forecasting the level of economic activity and the distribution of income among different groups of people in the economy.

In Monetary problems : With the help of Macro economics monetary problems can be analysed and understood properly. Changes in value of Money, inflation, deflation can be counter acted by adoping monetary and fiscal policies for the economy as a whole.

In economic growth : Economic growth is also a study in Macro economics. Macro economics is helpful for framing of development plans. Plans to attain overall increase in national income, output, employment are framed and implemented so as to raise the level of economic development of the economy as a whole.

In Business cycles : Importance of Macro Economics lies in analysing the causes of economic fluctuations and in providing remedies.

For understanding the behaviour of individual units : For understanding the behaviour 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 analysed, it is not possible to understand the reasons for the fall in the demand for individual products.

Thus Macro economies enriches our knowledge of the functioning of an economy by studing the behaviour of national income, output and employment. Moreover it is helpful in solving the problems of unemployment, inflation, economic instability and economic growth.

1.4. LIMITATIONS :

There are however certain limitations of Macroeconomic analysis.

Fallacy of composition : In macro economics the "fallacy of composition is involved that means aggregate economic behaviour is the sum total of individual activities. But what is true of indivdiuals is not necessarily true of the economy as a whole. For instance savings are virtue for

individual, but vice for public. If total savings in the economy increases, it may initiate a depression unless they are invested.

To regard the Aggregates as homogeneous : The main defect in marco economics is that it regards the aggregates as homogeneous. The average wage in a country is the sum total of wages in all occupations. But the volume of aggregate employment depends on the relative structure of wages rather than the average wage.

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

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

1.5. Difference between Micro and Macro Economics :

The difference between Micro and Macro economics can be made as follows:

1.5.1 :   The word Micro has been derived from the Greekword Mikros which means small. Microeconomics is the study of economic actions of individuals and small groups of individuals. Macro economics is also derived from the Greek word Makros which means large. It deals with the aggregates of these quantities, not with the individual incomes but with the national income, not with individual prices but with the price levels, not with the individual output but with the national output.

1.5.2   The objective of microeconmics is to maximise utility on consumption side, and profity on production side. On the otherhand, the main objectives of Macro economics are full employment, Price stability, economic growth and favourable balance of payments.

1.5.3   The basis of microeconomics is the price mechanism which operates with the help of demand and supply forces, which are also help to determine the equilibrium price in the market. On the otherhand the basis of macro economics is national income, output and employment which are determined by aggregate demand and aggregate supply.

1.5.4   Micro economics is based on different assumptions concerned with ratinonal behaviour of individuals. On the otherhand Macro economics bases its assumptions on such variables as the aggregate volume of output of an economy, with the extent to which its resources all employed, with the size of the national income and with the general price legel.

1.5.5   Micro economics is based on partial equilibrium analysis which helps to explain the equilibrium conditions of the individuals, a firm, an industry and a factor. But Macro economics is based on general equilibrium analysis which is an extensive study of a number of economic variables, their interactions and inter dependences for understanding of the economic system as a whole.

1.5.6   In Micro economics, the study of equilibrium conditions are analysed at a particular period. On the other hand macro economics is based on time lags.

Thus we find that there is difference between Micro and Macro economics, but it is not rigid.

1.6. Dependence of Micro economics on Macro economics :

There is mutual dependence between there two theories. For example when aggregate demand rises during a period of prosperity, the demand for individual products also rises. A macro economic change brings about changes in the values of micro economic variables in the demands for particular goods, in the wage rats of particular industries, in the profits, of particular firms and industries During depression when total output falls, the output of capital goods falls more than that of consumer goods profits, wages and employment decline mode rapily in capital goods industries than in the consumer goods industries.

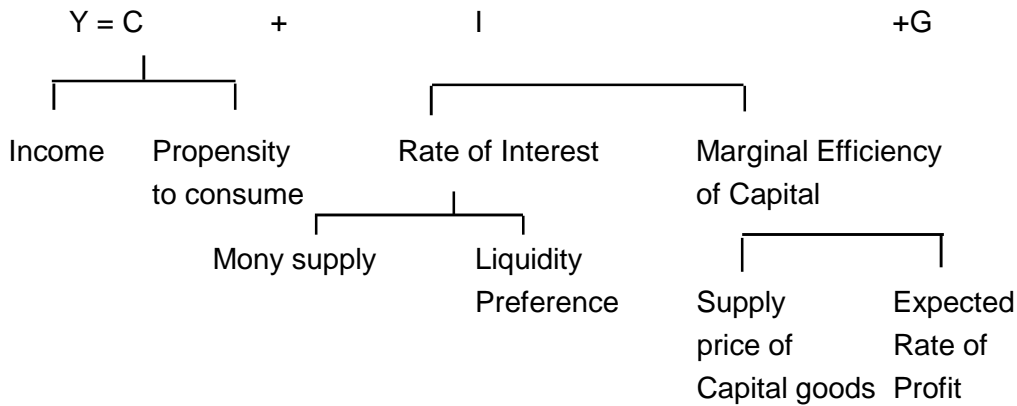## 1.7. Dependence of Macro economics on Micro economics :

Macro economics is also dependent on micro economic analysis. The total is made up of parts. National income is the sum of the incomes of individuals, households, firms and industries. The general price level is the average of all prices of individual goods and services similarly, the output of the economy is the sum of the output of all the individual producing units. Thus the aggregates and averages that are studied in macro economics are nothing but aggregates and averages of the individual quantities which are studied in micro economics". An example for the dependence of Macro economics on micro economics is if the economy concentrates only agriculture sector, the total output of the economy decline because the other sectors of the economy are neglected. The level of ouput, income and employment also depends on income distribution. If there is unequal distribution, income concentrated in the hands of few rich, it will tends to reduce the demands for consumer goods. Profits, investment and output will decline, unemployment spread and ultimately the economy falls in depression. Thus, both macro and micro approaches to economic problems are interrelated and inter dependent.

1.8. Summery :

The Greek words 'Mikros' and 'Makro's mean 'small' and 'large' respectively. Micro Economics studies economic units which are small. This is know as 'slicing method'. Macro Economics studies economic units which are large. It studies aggregates and averages. Macro method and modern economists like Keynes have been using Macro method.

Both the methods have their own merits and demerits. They and inter-dependent. As such, both are useful. Modern governments, due to some macro economic paradoxes, have been relying more on Macro method.

Income and employment are dependent on several macro economic variables as shown below:

$$Y = C + I + G$$

Income   Propensity   Rate of Interest   Marginal Efficiency
          to consume   of Capital

              Mony supply   Liquidity
                             Preference   Supply   Expected
                                           price of   Rate of
                                           Capital goods Profit

1.9. References : Edward Shapiro :

Macro economics Analysis. G. Ackley, : Macro economic Theory and Policy. K.E. Bouldings : Economic Analysis.

EXERCSES

1.   Explain the meaning and scope of Macro economics ?

2.   Defind Macro Economics. In what ways it differ from Micro economics ? Are they interdependent?

3.   Discuss the scope of macroeconomics. What are the limitations of macro economic analysis ?

4.   Explain how macro economics describes the economy interms of macro economic variable.

Lesson - 2

NATIONAL INCOME ANALYSIS

2.0 Aims and Objectives :

The main aim of this lesson is to make students understand the definitions, concepts and measurement of National Income, Difficulties in measurement, Social accounting etc. with out understanding these concepts it is not possible to study any economy.

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2.1 Introduction :

The concepts of National Income and Product are most significant in macro accounting. Both these macro economic concepts are frequently used to measure the economic performance of an economy because they serve as better yardsticks of economy's performance than the other aggregative concepts. Both income and product are simple and familiar concepts. Both national

income and product are flow quantities related to a given time and dimensions. While national product refers to a flow of goods and services over any given period of time, national income represents the flow of total factor earnings available to purchase the net flow of goods and services in the economy during any given time period.

Two things must be noted in regard to the meaning of national income. First it measures the market value of annual output. In other words national income is a monetary measure. But in order to know accurately the changes in physical output the figure for national income is adjusted for price changes. Secondly for calculating national income accurately all goods and services produced in any given year must be counted only but not more than once. Parts or components of many goods are brought and sold many times through a series of production stages before reaching a market. To avoid counting several times the parts of goods that are sold and resold, national income only includes the market value of all final goods but not intermediate goods.

2.2. Views of Prominent economists

The idea of 'National Income' has attracted the attention of economic thinkers and policy markers since the inception of Economics. Following are the views of prominent economists before keynes.

2.2.a Views of Marshall on National Income :

"The labour and capital of a country, acting on its natural resources, produce annually a certain net aggregate of commodities, material and immaterial, including services of all kinds….. and net income due on account of foreign investments must be added in. This is true net national income or revenue of the country or the national dividend".

Marshall's concept of national dividend suffers from the following practical difficulties :

1. Difficulty in conducting a detailed census of production :

It is really very difficult to make a statistically correct estimate of the production of all the commodities and services turned out in a country during a specific period.

2. Difficulties in Aggregation:

The aggregation of the outputs of goods and services is not easy. The different commodities and services constitute heterogeneous statistical units i.e., wheat in tonnes, cloth in meters, cotton in bales, petroleum in gallons and electricity in kilowatts.

3. Difficulty in monetary evaluation of goods and services :

There are a number of commodities which are produced but whose output is not evaluated before consumption. For instance, a farmer retains a part of total produce for self consumption. This portion of produce is not evaluated by normal market operations.

4. Double Counting :

The major difficulty in adopting Marshall's definition was the possibility of double counting of the products. Since industries are related to other industries and since a product has to pass through a number of successive stages of production, there is likelihood of double counting in the aggregate output of the community.

2.2.b Pigou's views on National Income :

Pigou defined the National Income or dividend as "That part of the objective income of the community including, of course, income derived from abroad which can be measured in money".

Pigou's definition of National Income was considered as quite practicable, elastic and convenient. It does not give rigid concept of National Income. According to it, all the goods and services which are transacted in a specific year in exchange of money may be included in the national dividend of the country. Pigou's emphasis upon monetary exchange was thus a definite advance over the Marshallian concept of national income. In fact this definition attempted to remove the difficulties of measuring national dividend which were inherent in Marshall's definition.

Pigou's definition however suffered from the flaw that the distinction between the goods exchanged for money and those not exchanged for money was artificial. And all the known illustrations given by Pigou about the maid servant marrying her master and continuing the same services, since her services will no longer be paid, they become excluded from the national dividend of the country.

Secondly, Pigou's definition of national income is of very limited significance in the poor countries where a large proportion of goods and services might be exchanged through barter.

2.2.c Fisher's views on National income:

Fisher made a very significant departure from the line followed by Marshall and Pigou. He adopted the level of satisfaction as the basis for measurement of national income in place of the stock of goods and services produced during a year. In his words, "…..The national dividend for income consists solely of services as received by ultimate consumers, whether from their material or from their human environments. Thus, a Piano or an overcoat made for me this year is not a part of this years income but an addition to capital. Only the services rendered to use during this year by these things are income". This definition gave a new perspective to the concept of national income as it measured the welfare of the community rather than its economic performance in respect of the production of goods and services. Adoption of this approach makes objective measurement of income through goods and services much more specific and meaningful than that through the flow of subjective satisfaction. The difficulties might be aggravated by the durable goods for which the measurement of the spread of satisfaction over time cannot be easily determined.

2.2.d   Keynes's Concept of National Income :

While explaining the concept of national income, keynes made a departure from the earlier thinking on the concept. He adopted an approach which helped in the aggregative analysis of income and employment. Keynes had suggested three approaches to national income in his book known as the General Theory.

1. Aggregate expenditure (on consumption and investment goods) approach.
2. Factor Incomes approach.
3. Sale proceeds minus cost approach.

1.   The Aggregate Expenditure Approach :

Keynes had explained the aggregate expenditure approach through the following equation.

$$(A - A_1) + (G^1 - B^1 - G) = Y$$

A = aggregate sale proceeds received by all the entrepreneurs in the   community.

A_1 = the amount of a aggregate purchase made by the entrepreneurs from other entrepreneurs.

$A - A_1$ = the purchases made by the consumers from the entrepreneurs or   consumer's out lay.

$G^1 - B^1 - G$ = capital consumption during the current production period, i.e., Net investment out lay.

Thus $(A - A_1) + (G^1 - B^1 - G) = y$ or consumption + Investment = National Income.

2.   The Factor Income Approach

Keynes second approach to national income is in terms of the incomes by all the factors of production. He has expressed the national income aggregate as the sum of the receipts of factors of production like land, labour and capital plus the earnings or profits accruing to the entrepreneurs i.e.,

$$Y = F + Ep$$

Where F denotes payments received by land, labour and capital

Ep shows the entrepreneurial profits.

3.   Sale Proceeds Minus Cost Approach :

The view implies that national income of a community lies some where between the gross national product and net national product. National Income falls short of GNP but exceeds NNP. Keynes does not deduct the whole of depreciation and replacement cost, but only a part of it which he terms 'user's cost'.

If the users cost calculated for all the individual business units is aggregated, it will determine the aggregate users cost. Keynes observed that the income of the community can be calculated by deducting user's cost from the aggregate sale proceeds. Income is denoted as Y=A – U.

For estimation of net national income, it is necessary to deduct the supplementary cost also.

Thus $Y = A – U – V \Rightarrow Y = A –(U+V)$

By deducting users' cost plus supplementary cost from the aggregate sales, the net national income of the community can be estimated.

In a two-sector economy national income equals national product can be expressed in the form of the following equation.

National Product =
$$\left\{ \begin{array}{l} \text{Value of Final} \\ \text{Goods \& Services} \end{array} \right. = \begin{array}{c} \text{Wages} \\ + \\ \text{Rent} \\ + \\ \text{Interests} \\ + \\ \text{Profits} \end{array}$$

From the above analysis it is evident that national income and national product are one and the same thing. Prof.J.R.Hicks rightly writes "The value of the net social product of the community and the sum of the incomes of its members are exactly equal. The net social product and the social income are one and the same thing".

2.1 Concepts of National Income :

There are various concepts of national income :-

2.1.1 Gross National Product (GNP) :

This is the basic national accounting measure of the total output or aggregate supply of goods and services. Gross national product is defined as the total market value of all final goods and services produced in a year in a country. Two things must be noted in this concept. First, it measures the market value of annual output. In other words, GNP is a monetary measure. There is no other way of adding up. The different sorts of goods and services produced in a year except in terms of their money prices. But in order to know accurately the changes in physical output, the figure for GNP is adjusted for price changes.

Secondly, for calculating GNP accurately, all goods and services produced in any years must be counted once, and not more than once. Most of goods go through a services of production stages before reaching a market. To avoid counting several times the parts of goods that are sold and resold. GNP includes, the market value of only final goods and ignore transactions involving intermediate goods.

2.1.2   Gross Domestic Product (GDP) :

Another important concept of national income is gross domestic product. GDP is the money value of all final goods and services produced by normal residents as well as non-residents in the domestic territory of a country but does not include net factor income earned from abroad. Thus difference between GDP and GNP at market prices arises due to the existence of 'net factor income from abroad.'

$GDP_{MP} = GNP_{MP}$ – net factor income from abroad
$GNP_{MP} = GDP_{MP}$ + net factor income from abroad

In national income accounting, we substract the value of imports from the value of exports to arrive at net exports which are a part of GDP and therefore also of GNP. Thus earnings from net exports are quite distinct from net factor income from abroad. Thus GDP can be obtained by adding up the first four items of GNP. Thus

$GDP = C + I + G + Xn$
Where $Xn = (X – M)$

Net factor Income from abroad

Gross Private Investment	Gross Private Investment	Less depreciation Net Private Investment	Less net Direct Taxes Wages + Profits + Interest + Rent
Net Exports Xn	Net Exports	Net exports	
Government Purchases G	Government Purchases	Government Purchases	
Consumption expenditure C	Consumption Expenditure	Consumption Expenditure	
GNP	GDP	NDP_{MP}	NDP_{FC}

2.1.3   Net National Product (NNP)   or
National Income at market prices (NNP$_{MP}$)

The other important concept of national income is that of net national product (NNP). In the production of gross national product of a year, we consume or use up some fixed capital, i.e., equipment, machinery etc. The capital goods like machinery, will wear out or fall in value as a result of its consumption or use in production process. This consumption of fixed capital or fall in the value of fixed capital due to wear and tear is called depreciation. The market value to final goods and services after providing depreciation is called national income at market prices.

Therefore,

$$
\left.\begin{array}{c}
\text{Net National Product} \\
\text{Or} \\
\text{National Income at} \\
\text{Market Price}
\end{array}\right\} = \text{Gross National Product Depreciation}
$$

2.1.4   National Income at Factor Cost (NNP$_{FC}$)

National Income at factor cost which is also simply called national income means the sum of all incomes earned by resource suppliers for their contribution of land, labour, capital and entrepreneurial ability which go into the years' net production. In other words, national income at factor cost shows how much it costs society in terms of economic resources to produce net output. The difference between national income at factor cost and nation income at market price arises from the fact that indirect taxes and subsidies cause market prices of output to be different from the factor incomes resulting from it.

$$
\left.\begin{array}{c}
\text{National Income} \\
\text{Or} \\
\text{National Income} \\
\text{at factor cost}
\end{array}\right\} = \text{National Income at market prices–Indirect Taxes + Subsidies}
$$

National Income = Net National Product – Net Indirect Taxes

(Net of Indirect Taxes and Subsidies is called Net Indirect Taxes)

2.3.5   National Domestic Product (NDP)

GDP provides the measure of the total production of final goods and services in the economy. It includes some producer goods which are made to replace the existing produce goods that are depreciating or wearing out. If a machine lasts for ten years, we can say that one-tenth of it is used every year. The machine must be replaced by a new machine immediately after its life time. If cost of replacement is deducted from the GDP, we will get the net domestic product. Net domestic product measures the total production of goods and services for current consumption and for adding to the stock of producers goods. While calculating net national product, the balance of payments position must also be taken into account. Exports are a part of the NNP because they have to be paid for. Any surplus in the balance of payments must be added to and deficit must be deducted from the domestic product.

NDP + Net Foreign Income = NNP

Exports are a part of NNP because they are paid by foreigners. Imports must be deducted because they have to be paid for.

2.3.6 Personal Income (PI)

Personal Income is the sum of all incomes actually received by all individuals on household during a given year.

Personal Income = National Income – Social Security Contributions – Corporate Income Taxes - Undistributed Corporate Profits + Transfer Payments.

In moving from national income as an indictor of income earned to personal income as an indicator of income actually received, we must subtract from National Income those three types of income which earned but not received and add those incomes which are received but currently not earned.

From National Income to Disposable Income

| Net Factor Income from abroad	Less : (1) Undistributes corporate profits (2) corporate taxes (3) Social security contributions		Less personal taxes
Profits			Consumption
Interest			+
Rent			Saving (C+S)
Wages and Salaries			
	Plus Transfer payments		
National Income (NI or NNP_{FC})		Personal Income (PI)	National disposable (Income (DI)

2.3.7 Disposable Income (DI)

Even whole of the incomes which are actually received by the people are not available to them for consumption. This is because government levy some personal taxes such as income tax, personal property taxes. Therefore after a part of personal income is paid to government in the form of personal taxes like income tax, personal property tax etc, what remains of personal income is called disposable income.

Disposable Income = Personal Income – Personal Taxes.
Disposable income can be either consumed or saved.
Hence disposable income = consumption + saving.

2.4 Aggregate output, National Expenditure and National Income :
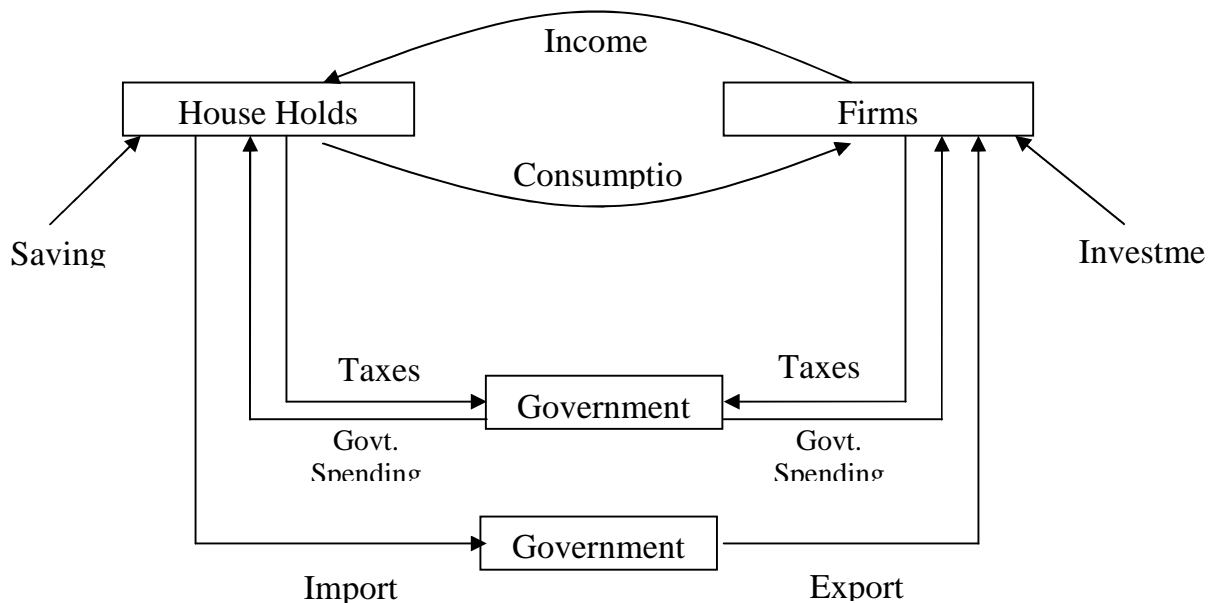
In principle, the value of an economy's total output can be measured in three ways. These can be seen with the above chart which shows the flow of income and expenditure in a simple model of the economy. The two main economic agents in the flow diagram are household and firms. The household can be thought of as the owners of factors of production, the services of which they sell to firms in exchange for income (in the form of wages, salaries interest, rent and profit). It should be noted that, in the model, all profits are assumed to be distributed to households and not retained by the firms. The firms use the factors of production to produce many different types of goods and services which they then sell to household (whose spending is called consumption), the government, foreigners (who buy exports) and other firms (whose spending on capital goods is called investment). The diagram also shows that the part of the household income which is not spent on consumption is either saved, spent on imports or in taken in taxes by the government. The government itself uses its taxes revenue (as well as money from other sources) to finance government spending, including transfer payments (such as pensions, unemployment benefits and student grants).

2.5 Measurement of National Income :

There are three methods of measuring national income because national income can be looked at from three view points as total output, total income or total expenditure. All those 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 of three ways: as the national income measured by adding up everybody's income; as the national product measured by adding up everybody's outputs……, 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 identify which applies to a hypothetical economy in a particular period. It is

Income = Product = Expenditure on product
National Income   = Net National Product
                          = Expenditure on net national product and also

National Income

+	=	Gross National	=	Expenditure on gross
Depreciation		Product		National Product

The three methods measure the same flow. When production takes place, 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.

2.5.6   Product or Value Added Method :

We have stated that the national product is the money value of all the final goods and services produced in a country during a year. To avoid double counting, we have to take the value of final goods and services only. There are three uses for a commodity, namely, final consumption, intermediate consumption such as seeds, fertilizers, labour etc used in cultivation and capital formation. There are only two final uses out of the three: final consumption and capital formation. The value of goods and services going into these two uses is to be calculated. A much easier way to find out the value added at each stage of production by every producing enterprise. That is how we can avoid double counting. Gross value added at each stage in the preparation of bread is shown below.

Value Added

(Value in Rupees)

Name of the Producer	Stage of Production	Value of intermediate consumption	Value of output	Gross value added at each stage
(1)	(2)	(3)	(4)	(5 = 4-3)
Farmer	Wheat	Nil	300	300
Miller	Flour	300	500	200
Baker	Bread	500	700	200
Shop keeper	Sale	700	800	100
Total		**1500**	**2300**	**800**

The value of final commodity is equal to the gross value added at market prices. This method involves the following steps.

(1)   Identifying the producing enterprises and classifying them into industrial sectors according to their activities.

(2)   Estimating net value added by each producing enterprise as well as each industrial sector
       and adding up the net values added by all the sectors.
       All the producing enterprises are broadly classified into the following three industrial
       sectors

(1)   Primary Sector : This sectors includes agriculture and allied activities, forestry, fishing
       and quarrying. All these sub-sectors produce commodities by exploiting natural resources
       – both surface resources like land and water and underground resources like coal, iron ore
       and other minerals.

(2)   Secondary Sector : This is also called manufacturing sector. Enterprises in this sector
       transform one type of commodity into another type of commodity.

(3)   Territory Sector : This is also called services sector. The enterprises in this sector
       produce services only such as banking, insurance, transport and communications trade and
       commerce.

       In practice these three sectors are further divided into sub-industrial sectors. Each of these
sub-sector is further divided into commodity groups or type of services.

       The second step of estimating net value added, involves the estimation of the following :

(1)   Value of output
(2)   Value of intermediate consumption
(3)   Value of consumption of fixed capital

       The third and final step in the calculation of national income through the value added
method is to estimate the net factor income earned from abroad, and add it to the domestic
product.

Precautions :

       The following precautions should be taken while measuring national income of a country
through value added method.
1.   Imputed rent values of self-occupied houses should be included in the value of output.
       Though these payments are not made to others, their values can be easily estimated from
       prevailing values in the market.
2.   Sale and purchase of second hand goods should not included in measuring value of output
       of a year because their values were counted in the year of output of the year of their
       production. But commission and brokerage earned in their sale and purchase has to be
       included because this is a new service rendered in the current year.
3.   Value of production for self-consumption are be counted while measuring national income.
       In this method, the production for self-consumption should be valued at the prevailing
       market prices.
4.   Value of services of house wives are not included because it is not easy to find out
       correctly the values of their services.

5.   Value of intermediate goods must not be counted while measuring value added because this will amount to double counting.

2.5.7   Income Method :

This method approaches national income from distribution side. Under this method, national income is obtained by summing up of the incomes of all individuals of a country. Individuals earn incomes by contributing their own services and services of their property such as land and capital to the national production. Therefore, national income is calculated by adding up rent of land, wages and salaries of employees, interest on capital, profit of entrepreneurs and incomes of self-employed people.

This method has the great advantage of indicating the distribution of national income among different income groups such as landlords, owners of capital, workers, entrepreneurs. Measurement of national income through income method involves the following steps :

a.   The first step in income method is to identify the productive enterprises and then classify them into various industrial sectors such as agriculture, fishing, forestry, manufacturing, transport, trade and commerce, banking etc.

b.   The second step is to classify the factor payments. The factor payments are classifieds into the following groups :

1.   Compensation of employees which include wages and salaries, employers' contribution to social security schemes.
2.   Rent and also royalty, if any
3.   Interest
4.   Profits : Profits are divided into sub-groups :
      (1)   Dividends
      (2)   Undistributed Profits
      (3)   Corporate income tax

5.   **Mixed income of self employed :** In India a large number of people are engaged in household industries, in family farms and other unorganised enterprises. Because of self-employment nature of business it is difficult to separate wages for the work done by self employed from the surplus or profits made by them. Therefore, the incomes earned by them are mix of wages, rent, interest and profit and are called mixed income of the self-employed.

c.   The third step is to measure factor payments. Price paid out to each factor multiplied by the number of units of each factor employed would give us the factors' income.

d.   The adding up of factor payments by all enterprises belonging to an industrial sector would give us the incomes paid out to various factors by a particular industrial sector.

e.   By summing up the incomes paid out by all industrial sectors we will obtain domestic product at factor income which is also called net domestic at factor cost.

f.   Finally, by adding net factor income earned from abroad to domestic factor income or NDP_{FC} we get net national product at factor cost NNP_{FC} which is called national income.

Income Method

			Net Indirect Taxes
	Net Income from Abroad	Consumption of Fixed capital	Consumption of Fixed Capital
Dividends		Dividends	
Undistributed Profits	Profits	Undistributed Profits	
Corporate Income Tax		Corporate Income Tax	
Interest	Interest	Interest	Interest
Rent	Rent	Rent	Rent
Mixed Income of self-employed	Mixed Income of self-employed	Mixed Income of self-employed	Mixed Income of self-employed
NDP_{FC}	NNP_{FC}	GDP_{FC}	GDP_{MP}

Precautions :

While estimating national income through income method the following precautions should be taken

(1)   Transfer payments are not included.
(2)   Imputed rent of self-occupied houses are included in national income as these houses provide services to those who occupy them and its value can be easily estimated from the market value data.
(3)   Illegal money such as hawala money, money earned through smuggling etc are not included as they can not be easily estimated.
(4)   Wind fall gains such as prizes won, lotteries are also not included.
(5)   Corporate profit tax should not be separately included as it has already been included as apart of profits.
(6)   Death duties, gift tax, wealth tax, tax on lotteries are paid from past savings or wealth and not from current income. Therefore, they should not be treated as a part of national income of a year.
(7)   The receipt from the sale of second-hand goods should not be treated as a part of national income. This is because the sale of second hand goods does not create new flows goods and services in the current year.
(8)   Income equal to the value of production used for self-consumption should be estimated and included in the measure of national income.

2.5.8 Expenditure Method :

Expenditure method arrives at national income by adding up all expenditure made on goods and services during a year. We add up the following types of expenditure by households, government and by productive enterprises to obtain national income.

1.   Expenditure on consumer goods and services by individuals and households. This is called final private consumption expenditure and is denoted by c.

2.   Government's expenditure on goods and services to satisfy collective wants. This is called government's final consumption expenditure and is denoted by G.

3.   The expenditure by productive enterprises on capital goods and inventories or stocks. This is gross domestic capital formation denoted by I or GDCF. It is divided into two parts.
        (1)   Gross fixed capital formation
        (2)   Addition to the Stocks or Inventories of goods.

4.   Estimating the net exports i.e., Exports – imports (X – M)
        X = Expenditure made by foreigners on goods and services of a country exported to other countries denoted by X.
        M = Expenditure by people enterprises and government of a country on imports of goods and services from other countries.

GDP_{MP} = Private final consumption expenditure + Govt's final consumption expenditure + Gross domestic capital formation + exports - imports

GDP_{MP} = C + G + I (X –M)
        = C +G + I + Xn

On deducting consumption of fixed capital (i.e., depreciation) from gross domestic product at market prices (GDP_{MP}) , we get net domestic product at market prices (NDP_{MP})

In this method, we subtract net indirect taxes i.e., (Indirect taxes – subsidies) to arrive at net domestic product at factor cost (NDP_{FC})

Expenditure Method

Gross Domestic Capital Formation	Less Depreciation		Net Income from abroad
	Net Domestic Capital formation	Less net indirect tax	Net Domestic Capital formation
Govt. Final consumption expenditure	Govt. Final consumption Expenditure		Govt. Final consumption Expenditure

Private Final consumption expenditure	Private Final consumption expenditure		Private Final consumption expenditure
Net Exports (X – M)	Net Exports (X – M)		Net Exports (X – M)
GDP_{MP}	NDP_{MP}	NDP_{FC}	NNP_{MP}

2.6 Difficulties in the measurement of National Income :

Although all methods are used almost in all countries to calculate national income, yet the calculation is a complex affair and is beset with conceptual and statistical difficulties. Following are some difficulties involved in the measurement of National Income.

1.   **Difficulty in defining nation :** National income does not only include income produced with in 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 definition of nation goes beyond the political boundaries.

2.   **Treatment of non–monetary transactions :** Which kind of goods and services should be included in national income ? commodities and services having money value are included in the national income but there are goods and services which may have no corresponding flow of money payments. Services performed for love, kindness and mercy and 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.

3.   **Inapplicability of any one method :** Another difficulty is regarding the method to be used in the estimation of national income. It is preferred to use the three methods simultaneously depending upon the availability of statistics.

4.   **Pau city of statistics :** Another important difficulty is the non-availability of statistical material. According to National Income Committee of India, the available statistics, specially for agriculture and small scale industries are extremely unreliable and incomplete.

5.   **Identification of transfer payments :** Another difficulty in calculation of national income is that of transfer of payments associated with the income method of national income calculation. Therefore, the transfer of money from one person or group to another person or group should be avoided. The best way to solve this difficulty is to consider only the disposable income of individuals or groups i.e., personal incomes minus all transfer payments.

6.   **Self-consumed production :** Another difficulty is substantial part of the output is not exchanged for money in the market, it being either consumed directly by producers or

bartered for other goods and services in the unorganised sector. The existence of a vast unorganised and non-monetised sector makes calculation of national income very difficult.

7. **Multi occupations :** The production in agriculture, industrial and as a matter of fact in all sectors is highly scattered and unorganised rendering the calculation of national income very difficult.

8. **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. The best way to avoid this difficulty is to calculate only the value of all goods and services that enter into final consumption.

9. **Which stage to choose :** Regarding the stage of economic activity at which national income be calculated, it is agreed that any stage-production, consumption and distribution- may be adopted depending upon the function 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.

2.7 National Income measurement in India :

The Central Statistical Organisation, Department of Statistics, Ministry of Planning publishes national income statistics on a regular basis. The CSO is entrusted with the task of estimating national income of India on yearly basis.

The methodology followed by the CSO to measure the domestic product in India is described in its "National Accounts Statistics : Sources and Methods". In India it is not possible to estimate the national income by each of the three methods. For example in Indian agriculture it is not possible to use income method because reliable income data is not available. In the household enterprises it is not possible to estimate income generated and final expenditure using all these three methods. As such different methods are used for different sectors. However, both valued added method and income method are being used to cross check the results.

Value added method is used to estimate the domestic product and the following are the commodity producing sectors.

(1)   Agriculture and allied activities
(2)   Forestry and logging
(3)   Fishing
(4)   Mining and Quarrying
(5)   Registered manufacturing

Income method is employed to estimate domestic product in the following sectors.

(1)   Unrecognised manufacturing
(2)   Gas, electricity and water supply
(3)   Banking and insurance
(4)   Transport, communication and storage
(5)   Real estate, ownership of dwellings and business services.
(6)   Trade, hotels and restaurants
(7)   Public administration and defence
(8)   Other services.

In the construction sector, estimates are based on a combination of commodity output and expenditure approaches.

2.8   Social Accounting :

National Income accounting is similar to ordinary business accounting. Ordinary business accounting tries to summarise the performance of a firm by measuring its profit or loss over a particular period of time. It provides accurate information in numerical form in relation to the economic and financial activities during a year. Similarly national income accounting tries to summarise the performance of a country's economy by measuring its total income and production of goods and services in a particular year.

The terms National Income Accounting or Social Accounting was first introduced by J.R. Hicks in 1942. He defined it as the accounting of the whole community or nation, just as private accounting is the accounting of an individual firm. Edey, Peacock and Copper describe social accounting thus : "Social accounting is concerned with the statistical classification of the activities of human beings and human institutions in ways which help us to understand the operations of economy as a whole". The field of studies summed by the words, "Social accounting embraces, not only the classification of economic activity but also the application of the information thus assembled to the investigation of the operation of the economic system".

NATIONAL INCOME ANALYSIS
2.9 SUMMARY :

National Product refers to a flow of goods and services over any given period of time, national Income represents the flow of total factor earnings during any given time period. National Income measures the market value of annual output. The idea of 'National Income' has attached the attention of economic thinkers and policy makers since the inception of Economies. Among the economic thinkers Marshall, A.C. Pigou Fisher and Keynes are the prominent economists. Keynes made a departure from the earlier thinkers on this concept. Keynes had suggested three approaches to National Income such as aggregate expenditure, factor income approach and sale proceeds minus cost approach.

There are various concepts of National Income. They are G.N.P., G.D.P., N.N.P., National Income at factor cost, N.D.P. personal Income & Disposable income.

There are three methods of measuring National Income because National Income can be looked at from three view points as total output or value added, income and total expenditure.

Although all methods are used almost in all countries to calculate National Income, yet the calculation is a complex and is beset with conceptual and statistical difficulties.

The central statistical organisation, department of statistics, Ministry of Planning publishes, National Income statistics on a regular basis. In India it is not possible to estimate the National Income by each of the three methods. However both value added method and income method are being used to cross check the result.

National income accounting tries to summarise the performance of country's economy by measuring its total income and production of goods and services in a particular year.

2.10 MODEL QUESTIONS:

1. Define National Income what are the different concepts of National Income? How are these interrelated?

2. How National income be measured? What are the difficulties in its measurement?

3. How far is National Income of a country a measure of welfare?

4. Describe the method of measuring National Income adopted in India. Give suggestions for improvement.

2.11 REFERENCES:

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LESSON 3

THE CLASSICAL THEORY OF EMPLOYMENT

Contents

3.0 Aims and objectives

The aim of this lesson is to analyse the classical theory of employment, its assumptions and the drawbacks of the theory. The famous book " General theory of employment, interest and money" Written by J.M. keynes was against the classical thought "By this theory we can understand the reasons for unemployment in capitalist economy.

3.1 Introduction :

The classical writers considered the state of full employment as a general condition of the economy. J.B. Say in his law of markets, stated that "supply creates its own demand" To the classical economists full employment is a normal condition of the economy. Since the Keynesian Economics is based on the criticizm of classical economics, it is necessary to know the latter as embodied in the theory of employment.

3.2 Classical theory of employment :

The classical theory assumes the existence of full employment. Given the wage price flexibility there are automatic forces in the economic system that tent to maintain full employment. Thus full

employment is regarded as normal situation any an deviation from this level is something abnormal which automatically tends towards full employment.

The classical theory of out put and employment is based on the following assumptions.

1. There is existence of full employment with out inflation

2.   There is closed laisez faire capitalist economy.

3. There is perfect competition in labour and product market

4. Labour is homogeneous

5.   Total output of the economy is divided between consumption and investment expenditures. i.e $y = C + I$.

6. The quantity of money is given

7. Wages and prices are flexible

8. Saving and investment were equal at full employment level

3.3 Say's law of Market

Say's law of market is core of the classical theory of employment J.B. Say, an early 19th century French economist enunciated the proposition that "Supply creates its own demand" It was this so called law which gave a concrete formulation to the idea that general over production an and hence general unemployment were impossible. If there is general over production in the economy then some labourer may loose their jobs, and may be the problem of unemployment in the economy for sometime. In the long run, the economy will automatically tend towards full employment. When production obtain the various inputs to be used in the production process, they generate incomes, to the owners of the inputs in the form of wages to the labourorer, rent to the land lords, interest to capitalists, and profit to the entreprenears. This in turn, causes the demand for goods produced. In this way supply creates its own demand.

General over production impossible. If the production process is continued under normal conditions, then there will be no difficulty for the producers to sell their products in the market. A person will work to make a product to exchange it for some other product he desires. Therefore the very act of supplying goods implies a demand for them. In such a situation there can not be general over production, because supply of goods will not exceed demand as a whole. But a particular good may be over produced due to the incorrect estimates of the quantity of the product which others want. But this is a temporary phenomenon. The excess production of that particular product can be corrected in time by reducing the production. J.S.Mill also supported say's views regarding the impossibility of general over production. According to J.S.Mill consumption is coextensive with production and production is the cause, and the sole cause of demand. Thus general over production is rejected.

Saving, investment equality : Income accuring to the factor owners in the form of rent, wages and interest is spent not only on consumption but also some proportion out of it is saved which is automatically invested for further production. Therefore, investment in production is a saving which helps to create demand for products in the market. Further saving and investment equality is maintained to avoid over production.

Rate of interest as a determinant factor : Say's law of market regards the rate of interest as a determinant factor in maintaining the equality between saving and investment. If there is any divergence between the two, the equality is maintained through the mechanism of the rate of interest. If at any given time investment exceeds saving, the rate of interest will rise. As a result saving will increase and investment fall. This is because saving is regarded as an increasing function of rate of interest and investment as a decreasing function of rate of interest On the contrary, when saving is more than investment, the rate of interest falls, investment increase and saving declines till the two are equal at a new rate of interest.

The mechanism of equality between SAVING AND INVESTMENT IS SHOWN IN FIGURE 3.1 WHERE SS IS THE SAVING CURVE AND II is the investment curve. The two curves intersect at E. Where the rate of interest is or and both saving and investment are equal to OA. If there is an increase in investment, the investment curve shifts to the right are I¹I¹ curve and at the interest rate 'or' investment OC is greater than OA saving. According to the classied economistes, the saving curve SS remains at its original level when there is any increase in investment. To maintain the equality between saving and investment, the rate of interest will rise. This is shown to rise to Or1 in the figure. At this interest rate the saving curve SS intersects the investment curve I¹I¹ at E¹. Consequently both saving and investment equal at OB.
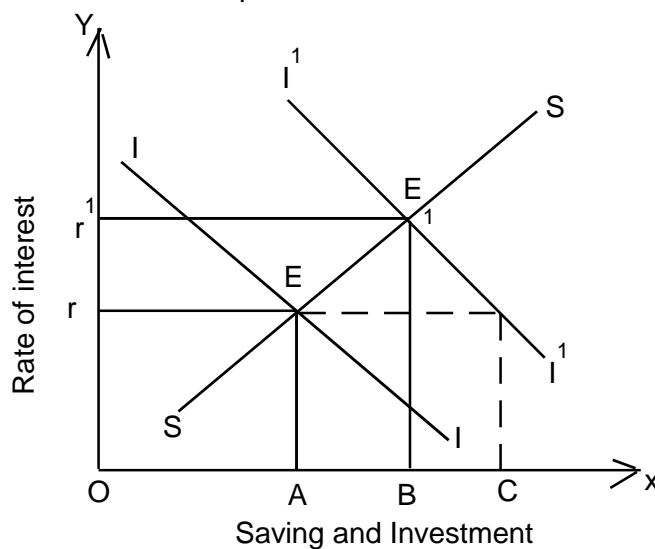

Figure : 3.1.

Pigou's Version : The classical theory of employment received its final version at the hands of A.C. Pigou who formulated Say's law interms of labour market. Accordig to Pigou, under free competition the tendency of the economic system is to automatically provide full employment in the labour market. Unemployment results from rigidity in the wage structure and interferences in the working of the free market economy. When the government intervens by recognising trade unions passing minimum wage laws wages are pushed up and unemployment comes. If all government interferences are removed and force of competition are allowed to work freely, the manipulation of wage rates will lead to full employment. The Pigovian equation $N = qy/w$ explains the entire propositon. In this equation N is the number of workers employed, of if the fraction of income earned as wages. Y is the national income and W is the money wage rate. N can be increased by a reduction in W.

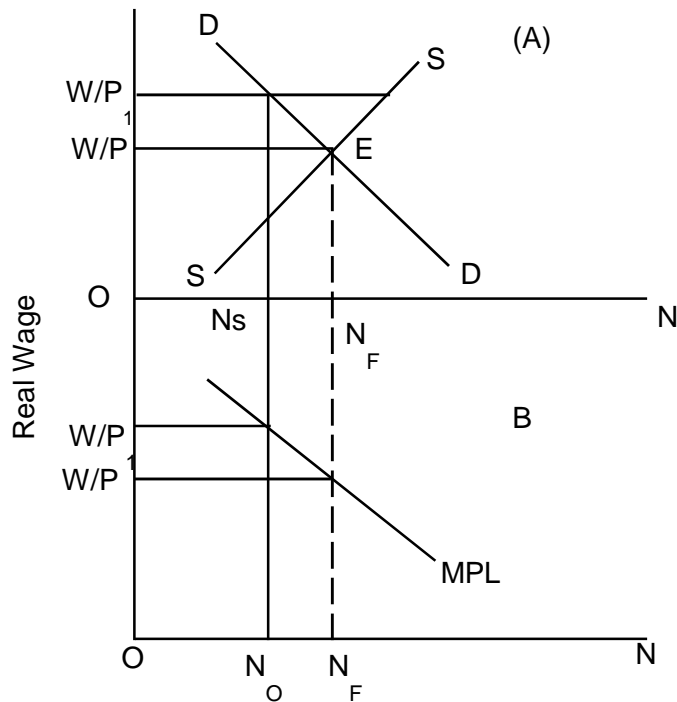Thus the key to full employment is a reduction in money wage. This is explained in the figure 3.2.

Figure 3.2. Employment

In panel (A) S is the supply curve of labour and 'D' is the demand curve for labour. The intersection of the two curves at 'E' shows the points of full employment NF and the real wage W/P. at which full employment is secured. If the real wage is maintained at a higher level W/P Supply exceeds demand for labour by NSNF labour is unemployed. It is only when the wage is reduced to W/P that unemployment disappears and the level of full employment is attained. This is shown in panel (B) where MPL is the marginal product labour curve which slopes downward as more labour is employed. Since every worker is paid wages equal to his marginal product, therefore the full employment level N_F is reached when the wage rate falls from W/P_1 to W/P. In the classical model of employment, changes in money wages and real wages are directly related and are proportional. When there is a cut in money wage, the real wage is also reduced to the same extent which reduces unemployment and ultimately brings full employment in the economy.

3.4. : Proposition and Implication of the law

The following are the implications of Say's law :

1. **Full employment in the economy :** The law is based on the proposition that there is full employment in the economy. Production continues to increase until the level of full employment is reached.

2. **Perfect competition :** Say's law of market is based on the prepositon of perfect competition in labour and product market.

3. **Automatic adjustment mechanism :** The law is based on the proposition that there is automatic and self adjusting mechanism in product and factor market. Flexibility of prices and wages will bring about the equilbrium between supply and demand of goods as well as factors so that full employment will be maintained.

4. **Laissez faire policy :** The law assumes a closed capitalist economy which follows a policy of laissez faire. This policy is esstential for automatic adjustment to attain fullemployment.

3.5. Criticisms of Say's law :

J.M. Keynes in his General Theory of Employment, Interest and Money made a frontal attack on the classical postulates and say's law of market. He criticised Say's law of markets on the following grounds.

1. **Supply does not create its demand :** Say's law assumes that production creater demand for goods. But this proposition is not applicable to modern economics where demand does not increase as much as production increases. It is not also possible to consume only those goods which are produced with in the economy.

2. **Self adjustment not possible :** According to say's law full employment is maintained by an automatic and self adjustment mechanism in the long run. Keynes analysis gives emphasis to short run only. According to Keynes unemployment can be removed by increases in the rate of investment and not by automatic adjustment.

3. **Money is not neutral :** Say's law of market is based on a barter system and ignores the role of money in the system. On the otherhand Keynes has given much importance to money. He regards money as a medium of exchange. Individuals and businessmen hold money for present and future necessaries.

4. **Over production is possible :** Say's law is based on the proposition that supply creates its own demand and there can not be general over production. But Keynes does not agree with the proposition. According to him all income accuring to factors of production is not spent but fraction out of it is saved which is not automatically invested. Therefore saving and investment are always not equal and it bcomes the problem of over production and unemployment.

5. **State intervention :** Say's law is based on the existence of laissez faire policy. But keynes har high lighted the need for state intervention in the case of general over production and mass unemployment through fiscal and monetary measures.

6. **Equality through income :** Keynes does not agree with the classical view that the equality between saying and investment is brought through the mechanism of the interest rate. But in reality, it is changes in income rather than the rate of interest which bring the two to equality.

7. **Wage cut no solution :** Pigou favoured the policy of wage cut to solve the problem of unemployment. But keynes opposed such a policy theoretical and practical points of

view. Theoretically, a wage-cut policy increases unemployment instead of removing it. Practically workers are not prepared to accept a cut in money wage.

8. **Demand creates its own supply :** Say's law of market is based on the proposition that supply creates its own demand. Keynes has criticised this proposition and propounded the opposite view that demand creates its own supply. Unemployment results from the deficiency of effective demand because people do not spend the whole of their income on consumption.

3.6. Criticism of the classical theory employment :

Keynes has criticised the classical theory of employment for its unrealistic assumptions in his book,. General theory of employment interest and Money. Keynes attacked the classical theory on the following grounds.

1. Keynes rejected the fundamental classical assumption of full employment equilibrium in the economy. He considered it as unrealistic. The general situation in capitalist economy is one of under employment. This is because that the capitalist society does not function according to say's law. Supply always exceeds demand which leads to over production and unemployment.

2. Keynes refused Say's law of markets that supply creates it own demand. He maintained that all incomes earned by the factor owners would not spent in buying products which theory helped to produce. A part of earned income is saved and is not automatically invested because saving and investment are distinct functions. The deficiency of aggregate demand leads to general over production and unemployment.

3. Keynes did not agree with the classical view that the laissezfire policy was essential for an automatic and self – adjusting process of full employment equilibrium because of the non – equalitarian structure of the capatalist society. The rich posses much wealth but they do not spent, the poor lack money to purchase consumption goods. Thus there is general deficiency of aggregate demand in relation to aggregate supply which leads to over production and unemployment in the economy. Keynes therefore advocated the state intervention for adjusting supply and demadn within the economy through fiscal and monetary measurers.

4. The classical writers thought that the interest rate would bring about equilibrium between saving and investment. But Keynes object to this on the ground that the savers were different from investours. Keynes held that the level of saving depended upon the level of income and not on the rate of interest. Similarly investment is determined not by the rate of interest but by the marginal efficiency of capital. It is the variations income rather than in interest rate that bring about the equality between saving and investment.

5. According to the classical writers, a wage cut would be able to solve unemployment. When wages decreased, costs of production would decrease when costs were reduced, prices would fall leading to an expansion of demand. When demand expands, it would necessitate expansion of output, thus creating more employment opprtunites. Like this, a wage cut would be able to cure unemployment. But keynes rejected this logic of classical

writers. In his openion a wage cut would lead to more unemployment instead of solving it. Wage cut would decrease the incomes of the people and their purchasing power. When the purchasing power fell, demand for goods and services would decrease, leading to a reduction in output. When output was reduced it would create more unemployment. Therefore general wage cut is not solution for unemployment.

6.   The classical economists believed that money was demanded for transactions and precautionary purposes. They did not recognise the speculative demand formoney because held for speculative purposes related to idle balances. But Keynes did not agree with this view. He emphasised the importance of speculative demand for money.

Thus the classical thoery of output and employement cannot be regarded as an acceptable theory. Keynes has given his own theory to explain the problems of output and employment known as modern theory of output and employment which is certainly superior to the classical theory in many respects.

3.7. Quantity theory of money :

The valadity of Say's law in a money economy also depends on the classical quantity theory of money which states that price level is a function of the supply of money. This thoery has given by Irving Fisher, an American economist, and hence has come to be known as Fisher's equation of exchange. As this equation attempts to show the relationship between the volume of money on the one hand and the volume of goods transacted on the other, it isc alled "Cash transactions version of Quantity theory, Allegebraically Fisher's equation is, $MV = PT$. Where M = legal tender money in circulation that is issued by central Bank. V = is the velocity of money i..e the number of times a monetary unit changes the hands on average during a given period of time. Ex : There are 100 rupees in circulation. If each rupee on an average changes hands 10 times in trade transactions, velocity of money is 10. As each rupee has transacted business worth Rs.10 on an average, 100 Rs. In circulation are worth 1000 Rs. Of trade. This indicates the supply of money. M X V = MV supply of money. So MV is the money side of the equation.

P = Average Price level, T = Number of transactions.

P X T = PT = Money demand

PT is the good's side of equation

So MV = PT indicate the supply side and demand side of money. When Bank Money has also taken into account then the equation is written as $MV + M_1V_1 = PT$

Where M1 is Bank Money, V1 is its velocity. With the help of the above equation, price level can be calucalted thus
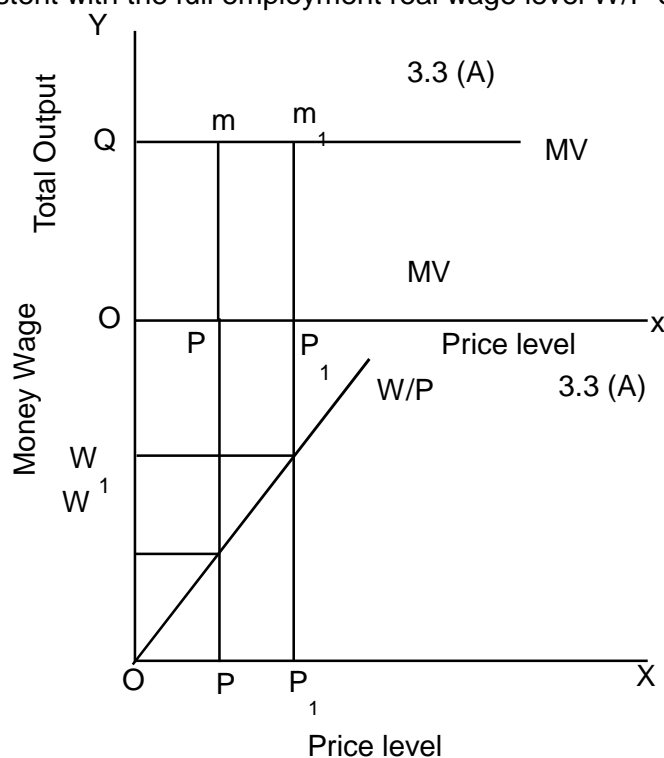
$$P = \frac{MV + M_1 V_1}{T}$$

Price level can be known by dividing the total volume of money by total number of transactions.

3.7.1. Assumptions of the quantity theory

Fisher has based his equation on the following assumptions

1. Money acts only as medium of exchange. All transaction take place through money.
2. Consumption habits and tastes of the people are constant in short periods.
3. 'T' and 'V' do not change during a given period.
4. M1 bears a particular relationship to M, on the basis of cash reserves of the banks.
5. Demand for money is stable in short period
6. In the equation the only independent variable is M, P. is a dependent variable.

The relation between quantity of Money, total output and price level is depicted in figure 3.3. (a) where the price level is taken on the hoirzontal axis and the total output on verticle axis. This is because of the equation $MV = PT$ holds on all points of this curve. Given the output level OQ, there would be only one price level OP consistent with the quantity of money as shown by point "m" on the MV curve. If the quantity of money increases, MV curve will shift to the right or M1V curve. As a result the price level would rise from OP to OP_1 given the same level of output OQ. This rise in the price level is exactly proportional to the rise in quantity of money i.e. $PP_1 = mm_1$. Having determined the price level with the help of the total quantity of money MV and the total output OQ, it is possible to determine the money wage consistent with a given real wage. This is explained in Figure 3.3. (B), where W/P. is the real wage line or wage price line. When the price level is OP the money wage is OW. When the price level rises to OP_1, the money wage also rises to OW_1. The wage price combination $OW_1 = OP_1$ is consistent with the full employment real wage level W/P of figure 3.3 (B)

3.7.2. Criticism of the quantity theory of money

Fisher's quantity theory of money has been subjected to severe criticism by economists.

1. Fisher's equation is a mere truism. It states that the total quantity of money $(MV + M_1V_1)$ paid for goods and services must equal to their value. But it can not be accepted to day that a certain percentage change in the quantity of money leads to the same percentage change in price level.

2. The direct and proportionate relation between quantity of money and price level in Fisher's equation is based on the assumption that "Other things remain unchanged". But in real life V, V_1 and T are not constant. Moreover MM_1 and P. Rather all elements in the equation are interelated and interdependent. For instance a change in M may cause a change in V. Conseuqently the price level may change more in proportion to a change in the quantity of money. Similarly, a change in 'P' may cause a change in M. Rise in price level may necssitate the issue of more money. Moreover the volume of trade (T) is also affected by changes in P. When the volume of trade (T) is also affected by changes in P. When prices change 'T' also changes. When 'T' changes the supply of money also changes.

3. Fisher's theory fail to explain trade cycles. During depression price level may not rise though money supply is increased and they may not decline with reduction in the quantity of money during boom.

4. If neglects the store of value function of money and considers only the mediaum of exchange funciton of money.

5. Fisher's theory is static in nature because of its unrealistic assumption as long run fall employment etc. It is therefore, not applicable to a modern dyanamic economy.

3.8. Summary :

"Supply creats its own demand". For this Say's law of markets full employment and perfect competition are the assumptions. Over - production and sacricities have no place in a free market.

Any unemployment can be solved by a wage-cut.

Economy is run by an invisible hand, which corrects all disequlibriums automatically.

But, Keynes very strongly critices Sy. Additional incomes generated by the additional supply may not be spent to create additional demand. Some incomes may be saved. Wage-cut may help a firn or industry but not the economy as a whole. General wage cut will lead to more unemployment.

3.8. References and Exercises

1.   Explain the classical theory of employment ? What grands Keyner Criticiser it ?

2.   'Supply creater its own demand' critically examine this statement.

3.   State and explain the main propositions of Say's law. On what grounds Keyner criticised them?

4.   Critically examine the quantity theory of Money.

5.   MV = PT explain the equation.

        Edward Shapiro, Macro Economics EE, Hagen "The classical theory of level of output and employment

LESSON 4

KEYNESIAN THEORY OF INCOME, OUTPUT AND EMPLOYMENT

Contents

4.0   Objectives and Aims

4.1   Introduction

4.2   Meaning of Aggregate demand price, and Aggregate demand schedule

4.3   Meaning of Aggregate supply, Aggregate supply Price and Aggregate Supply Schedule.

4.4   Determination of Effective demand and employment and output.

4.5   Importance of Effective demand.

4.8.   Summary

4.6   References

4.7   Exercises

4.0   Aims and objectives

In this lesson we are going to study about the principle of effective demand, a very popular concept developed by J.M. Keynes on which level of employment and output depends in any economy. According to Keynes it is the deficiency of effective demand that leads to over production and unemployment in the capitalist economy. By this we can understood, the problems of unemployment and poverty especially in underdeveloped countries. The only solution is not the wage cut but raising the level of effective demand through fiscal and monetary measurers.

4.1. Introduction :

The logical starting point of Keynes' theory of employment is the principle of effective demand. In a capitalist economy the level of employment depends on effective demand. Thus unemployment results from deficiency of effective demand and the level of employment can be raised by increasing the level of effective demand. Keynes used the term "Effective demand" to denote the total demand for goods and services at various levels of employment. According to Keynes, the level of employment is determined by effective demand which inturn determined by aggregate demand price and aggregate supply price.

4.2. Meaning of Aggregate demand, Aggregate demand price and Aggregate demand schedule

In Keyne's "General theory" Aggregate demand plays a vital role in determining the level of employment output and income. Aggregate demand means the total expenditure of individuals, firms and government on various gods and services produced in an economy at particular level of employment. "The aggregate demand price for the output of any given amount of employment is the total sum of money proceeds, which is expected from the sale of the output produced when that amount of labour is employed." Thus aggregate demand price is the amount of money which the entrepreneours expect to get by selling the output produced, by the number of labourer employed. In other words it referes to the expected revenue from the sale of output produced at a particular level of employment.

A statement showing various aggregate demand prices at different levels of employment is called aggregate demand price schedule or aggregate demand function. If a certain level of output and employment is to be created and maintained, it needs a corresponding level of expenditure by the spending units in the economy. Spending units in the economy can be classified as belonging to three different sectors namely family sector, firm sector and Government sector. So the aggregate demand is the sum total of all expected expenditure in these three sectors.

Aggregate demand = consumption expenditure (C) + Investment expenditure (I) + Government expenditure (G) AD = C + I + G.

In an open economy the net value of foreign trade (exports minus imports) also will be considered as a part of Aggregate demand.

AD = C + I + G + (X – M)

Table 4.1. shows the Aggregate demand schedule. It reveals that with the icnrease in the level of employment, proceeds expected will rise and at lower levels of employment decline. According to Keynes, the aggregate demand function is an increasing function of the level of employment.

Table 4.1.
Aggregate demand function

Level of employment (N) In lakhs	Aggregate demand Price (D) (Rs. Crores)
20	230
25	240
30	250
35	260
40	270
45	280
50	290

The aggregate demand curve can be drawn on the basis of the above schedule. It slopes upward from left to right because as the level of employment increases aggregate demand price also increase as AD curve in figure 4.1.

4.3. Aggregate supply, Aggregate supply Price and Aggregate supply schedule : The total amount of goods and services produced at a particular period of time is called as aggregate supply. Aggregate supply is the expected minimum amount of money which the procedures in the economy must receive by selling the goods and services at a particular level output and employment. Aggregate supply schedule is a schedule which shows, The various levels of expected minimum amounts of money that the producers in the economy must receive by selling the goods and services at various levels of output and employment. If a certain level of output and employment is to be maintained, it needs a corresponding level of minimum income to the production units in the short period. Aggregate supply schedule is a schedule which shows the various levels of expected minimum amounts of money that the producers in the economy must receive by selling the goods and services at various level of output and employment. It should be remembered that the aggregate supply schedule shows only only the minimum income expectations of the production units at different levels output and employment but not actual incomes received by them. In the words of Prof. Dillard, "The aggregate supply function is a schedule of the minimum amounts of proceeds required to induce varying quantities of employment. Table 4.2. shows the aggregade supply schedule.

Aggregate supply schedule

Level of employment (N)	Aggregate supply Price (AS)
In lakhs	(Rs. Crores)
20	215
25	230
30	245
35	260
40	275
40	290
40	305

The table 4.2. reveals that aggregate supply price rises with the increase in the levels of employment. If the entrepreneur are to provide employment to 20 lakhs of worker, they must receive Rs. 215 crore from the sale of the output produced by them. It is only when they expect to receive the minimum amounts of proceeds (Rs.230, Rs.245 and Rs.260 crores) that they will provide employment to more workers (25 lakhs, 30 lakhs and 35 lakhs respectively. But when the economy reaches the level of full employment the aggregate supply price (Rs.275, 290 and 305 crores) continues to increase but there is no further increase in employment. The aggregate supply curve can be drawn on the basis of the schedule. It slopes upwards from left to right because of the necessary expected proceeds increase, the level of employment also rises. But when the economy reaches the full employment level the

aggregate supply curve becomes vertical. Even with the increase in aggregate supply price, it is not possible to provide more employment as the economy attained the level of full employment.

4.4. Determination of Effective demand output and employment :

We have studied the two determinants of effective demand separately and now are in a position to analyse the process of determining the level of employment in the economy. The level of employment is determined at a point where aggregate demand equals the aggregate supply price. This point is called the effective demand and here the entreprenurs earn normal profits. So long as the aggregate demand price is higher than the aggregate supply price, the prospects of getting additional profits are greater when more workers are provided employment. This process will continue till the aggregate demand price equal to aggregate supply price and the points of effective demand is reached. This point determines the level of employment and output in the economy. This point of effective demand is, however, not necessarily full employment but of unempoloyment equilibrium. If the entreprenurs try to provide more employment after this point, the aggregate supply price exceeds the aggregate demand price indicating that the total costs are higher than the total revenue and there are losses. So the entrepreneour will not employ workers beyond the point of effective demand till the aggregate demand price rises to meet aggregate supply price at the new equilibrium, point of may be full employment. If the aggregate demand price raised still further, it will lead to inflation for no increase in employment and outputs is possible beyond the level of full employment. The following table explains the determination of effective demand.

Table 3 : Schedule of Aggregate demand and Aggregate Supply Prices

Level of Employment (N) In lakhs	Aggregate Supply price (As) (Rs. Crores)	Aggregate demand Price (AP) (Rs. Crores)	
		Old	New
20	215	230	234
25	230	240	245
30	245	250	255
35	260	260	265
40	275	270	275
40	290	280	285
40	305	290	295

In the above table when the proceeds necessary and proceeds expected equal to Rs. 260 crores the level of employment is determined as 35 lakhs. This is the point of effective demand. If we assume full employment level to be 40 lakh workers in the economy, it will necessitate the drawing OP of new aggregate demand price schedule as shown in the table 3, last column. As a result, the new point of effective demand is 40 lakh workers because both the aggregate demand price and

aggregate supply price equal to 275 crores. Beyond this point there is no change in the level of employment which is steady at 40 lakh workers.

Figure 4.1 illustrates the determination of effective demand where AD is the Aggregate demand function and AS is the aggregate supply function. The horizontal axis measurers the level of employment in the economy and the vertical axis, the proceeds expected and the proceeds nessary. The two curves AD and AS intersect each other at point E. This is the effective demand where ON workers are employed. Keynes cautions that it should not be taken as full employment level or it may or may not actually be full employment level. Equilibrium can obtain even before fullemployment is reached which is known as under employment equilibrium. When aggregate demand equals aggregate supply at full employment level, it should be known as full employment equilibrium.
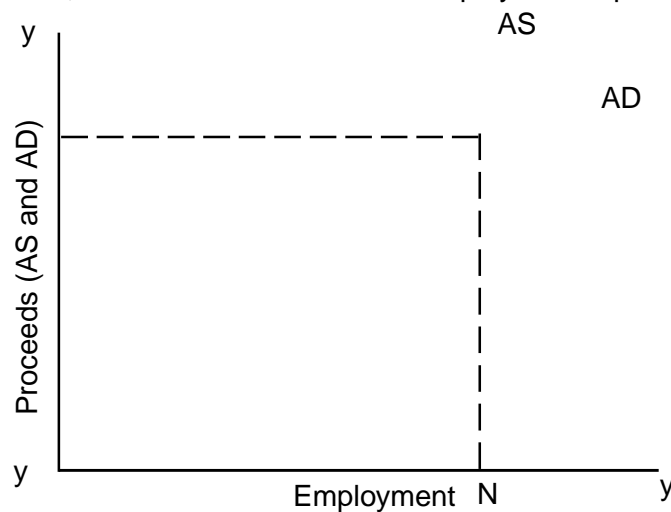

Figure 4.1

4.5. Importance of effective demand

The principle of effective demand is the most important contribution of Keynes. It is the soul of the Keynesian theory of employment.

4.5.0: Determinant of employment : Effective demand determines the level of employment in the economy. When effective demand increases, employment also increases and decline in effective demand decreases the level of employment. Thus unemployment is caused by deficiency of effective demand. We may conclude that the importance of the principle of effective demand lies in pointing out the cause and remedy of unemployment.

4.5.1. Repudiation of Say's Law : The principle of effective demand repudiates say's law of market that supply creates its own demand and full employment equilibrium is a normal situation in the economy. But the principle of effective demand points out that underemployment is a normal condition and full employment is accidental. In a capaitalist economy supply fails to create its own demand because the whole of the earned income is not spent on consumption. Moreover saying and investment are not equal. As a result under employment equilibrium is possible. The pigovian view that full employment can be achieved by reduction in money wage is also repudiated by this principle of effective demand. A money wage cut will bring about a reduction of aggregate demand leading to

fall in effective demand and hence the level of employment. Thus the importance of effective demand lies in repudiation of Say's lay and the clasical full employment equilibrium.

4.5.2. Importance of investment : The principle of effective demand highlights the significant role of investment in determining the level of employment in the economy. The determinant of effective demand are consumption and investment when income increases consumption also increases but by less than increase in income. Thus there arises a gap between income and consumption which leads to decline in the volume of employment. This gap can be filled by increasing investment expenditure. Hence the level of effective demand can be raised by an increase in investment.

4.5.3 : The paradox of poverty in the Midst of potential plents : The importance of effective demand lies in explaining the paradox of poverty in the midst of potential plenty in the modern capitalism. It follows that in poor community, the gap between income and consumption is small where as it is very large in wealthy community. It will therefore have little difficulty in employing all the resources in poor countries by filling the gap through small investment expenditure. But in rich community investment demand is not adequate to fill the gap and there emerges a deficiency of aggregate demand resulting in widespread unemployment. Thus as Keynes said "The richer the community, the more obvious and outrageous the defects of the economic system that lead to unemployment on a mass scale in the midst of potential plenty because of the deficiency of effective demand".

4.6 Summary

Summary of Keynesian Theory of Employment and income

From the theory of employment we learnt hat in short run, employment is determined by effictive demand and the effective demand is equal to the total expenditure on consumption and investment goods. An increase in either consumption or investment will increase the effective demand which inturn would increase the employment in the country, and Vice versa. This means the key to employment and income determination lies in consumption and investment.
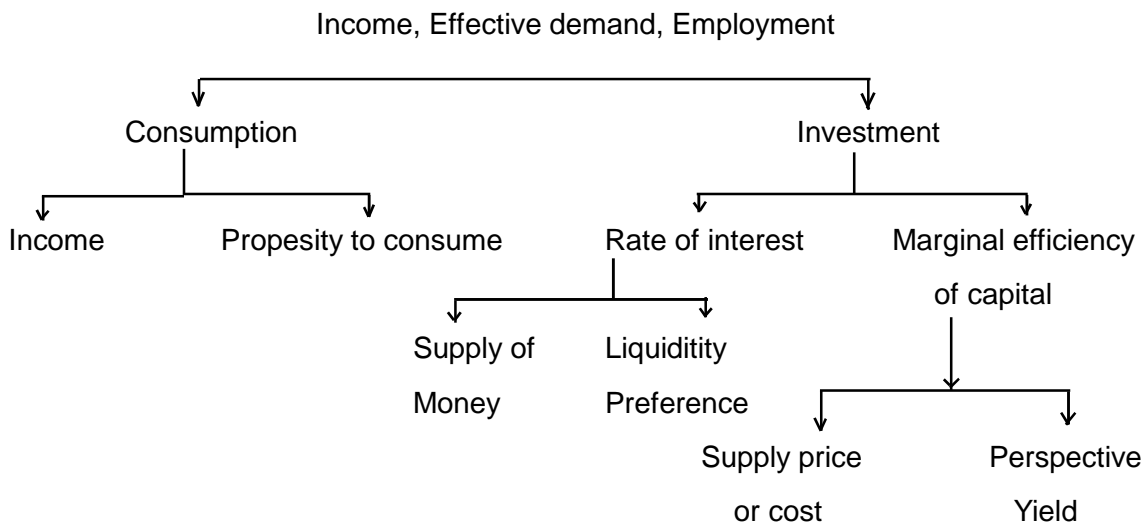
Keynes has introduced several new concepts in the discussion of consumption and investment. In the succeding chapters, we shall discuss these concepts and principles such as propensity to consume and marginal efficiency of capital. We shall see how consumption expenditure is determined by propensity to consume and investment by marginal efficiency of capital and the rate of interest. Marginal efficiency of capital depends upon (a) future expectations of profit and. (b) Present cost of replacing capital equipment. Obviously higher the expected rate of profit, the greater the indesment to invest. Also, lower the replacement cost, the greater is the inducement to invest. If the expectations of profit remain the same and the rate of interest falls, then investment would increase. Keynes introduced the concept of liquidity preference to explain the determination of rate of interest.

Thus the two determinants of investment are the marginal efficiency of capital and the rate of interest. After we have learnt fully the tools and principles used by Keynes in the theory of employment, we shall be able to understand clearly keynesian theory of employment and income. We give below this theory in summary fashion.

1.   Theory of income depends on the volume of total employment.

2. Total employment depends on total effective demand and in equilibrium aggregate demand is equal to aggregate supply.

3. Aggregate supply depends on physical and technical conditions of production and in the short run these do not often change, hence it is the changes in aggregate demand that bring about changes in income and employment.

4. Effective demand is made up of a) Consumption demand b) investment demand

5   Consumption demand depends on consumption function or propensity to consume and in the short run, consumption function is relatively stable

6. Investment demand depends on a) the marginal efficiency of capital b) the rate of interest

7. The marginal efficiency of capital depends on a) the expectations of profit yields and b) replacement cost of capital assets.

8. The rate of interest depens on a) the quantity of money and b) the state of liquidity preference.

Keynes' theory in outline : The Keynesian theory may also be presented in a tabular form as under

Income, Effective demand, Employment

Consumption   Investment

Income   Propesity to consume   Rate of interest   Marginal efficiency of capital

Supply of Money   Liquiditity Preference

Supply price or cost   Perspective Yield

Graphic Representation of Keynes income, employment theory

Figure
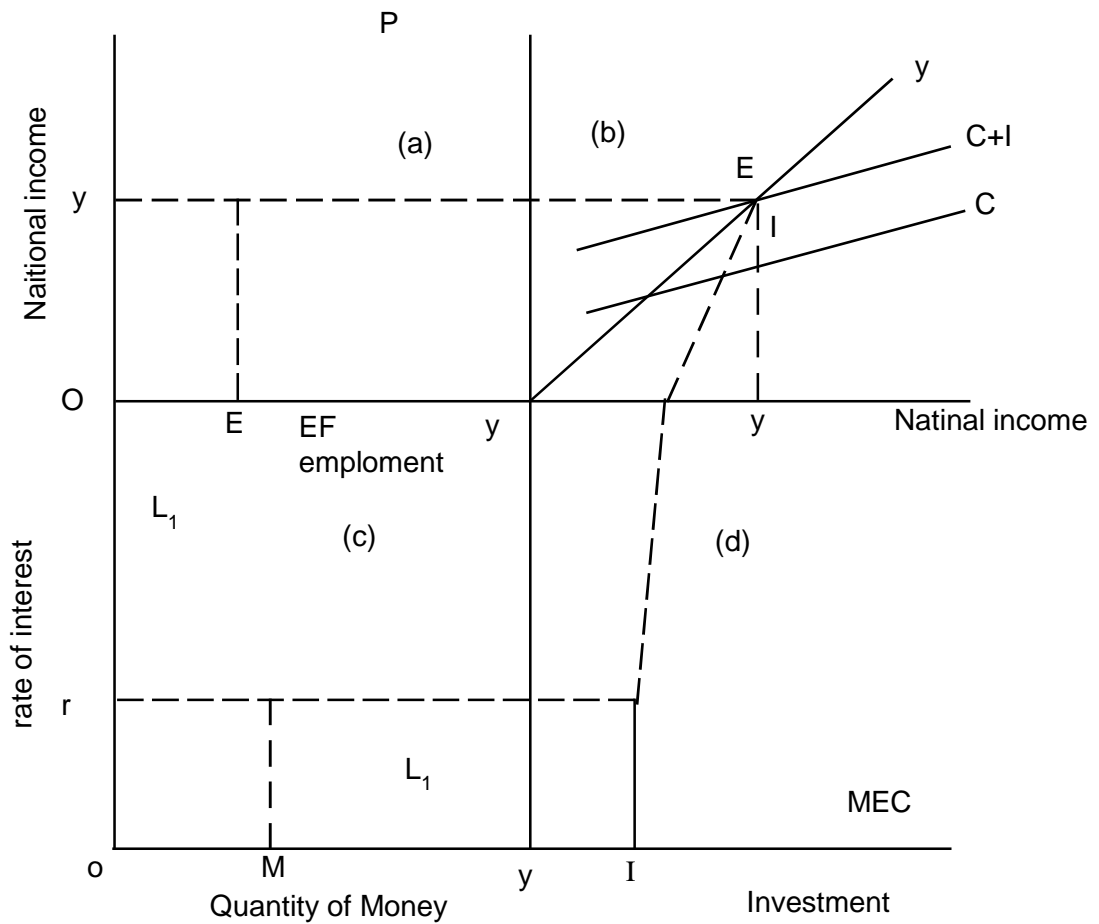
The curve OP in the diagram (a) shows the relationship between income and employment, the greater the income the greater the employment. The diagram (b) shows that the aggregate demand (C + I) determines the equilibrium level of income. Diagram (c) shows the way in which marginale fficiency of capital and the rate interest determine the volume of investment by the liqudity preference curve LL_1 and the quantity of mone OM. Now given the liquidity preference curve LL_1 and the quantity of money OM. The rate of interest is determined given the schedule of marginal efficiency of capital (MEC) and the rate of interst Or, the volume of investment is OI. Now given the investment OI, the propensity to consume as represented by curve C in diagram (b) national income OY will be determined. OY level of National Income will generate OE volume of employment. Now of OE_F is the level of full employment, it is clear that the equilibrium is estbalished at less than full employment level. If the quantity of money is increased, it can be shown by the above diagram that the equilibrium income and employment will rise.

4.7. References

W.C : Peterson, 'Income, Employment and Growth'

Edward Shapiro : Macro Economic Analysis.

4.7. Exercise

1. What do you mean by Effective demand ? How it is determined ? Discuss its importance.

2. 'The logical starting point of Keyne's theory of employment is principle of effetive demand' discuss.

3. Write about the role of Aggregate demand and Aggregate supply in Keynesian theory of output and employment.

4. What are the factors that determine the equilibrium level of employment in a country ? Explain.

LESSON 5
CONSUMPTION FUNCTION

Contents

5.0. Aims and Objectives : The aim of this lesson is to explain about consumption function which is one of the important tools of Keynesian Economics. By this lesson we can understood what factors will determine the level of consumption function and how the value of Multiplier is determined.   Indirectly the importance of investment is emphasised in order to increase the level of employment and income in this lesson.

5.1 Introduction :   Consumption function was first used by J.M. Keynes in Macro economies. This chapter deals with consumption function, its technical attributes, its importance and subjective and objective determinants. It also deals with the concept of Multiplier and its functions.

5.2. Meaning of consumption function : The consumption function or propensity to consume refers to income consumption relationship. It is a "functional relationship between two aggregates i.e. total consumption and gross national product". Symbolically, the relationship is represented as $C = f(y)$ where 'C' is consumption, Y is the income and 'f' is the functional relationship. Thus the consumption function indicater a functional relationship between 'C' and y, where 'C' is dependent and 'y' is independent variable. In fact, propensity to consume of consumption function is

a schedule of various amounts of consumption expenditure corresponding to different levels of income. A hypothetical consumption schedule is given is Table 1.

Table 1 : Consumption Schedule

Rs. Crores Income (y)	Rs.Crores Consumption (C) $C = f(y)$
0	20
60	70
120	120
180	170
240	220
300	270
360	320

Table – I shows that consumption is an increasing function of income, because consumption expenditure increases with increase in income. When income is zero people spend out of their past savings on consumption in order to live. When income is generated to the extent of 60 crores it is not sufficient to meet the consumption expenditure of the community. When both consumption and income equals to Rs.120 crores, it is the basic consumption level. After this income is shown to increase by 50 crores and consumption by 50 crores. This implies a stable consumption function during of the short run as assumed by Keynes. Figure 5.1 illustrates consumption function diagramatically. In the diagram income is measured on horizontal axis and consumption is measured on vertical axis. 45^0 line the unity line where at all lever of income and consumption are equal. 'C' is the consumption curve slopes upwards which indicates that consumption is an increasing function of income. The portion of incomenot consumed is saved as shown by the vertical distance between 45^0 line and 'C" curve i.e. SS_1. So the shape and position of the C curve indicates the division of income between consumption and saving.
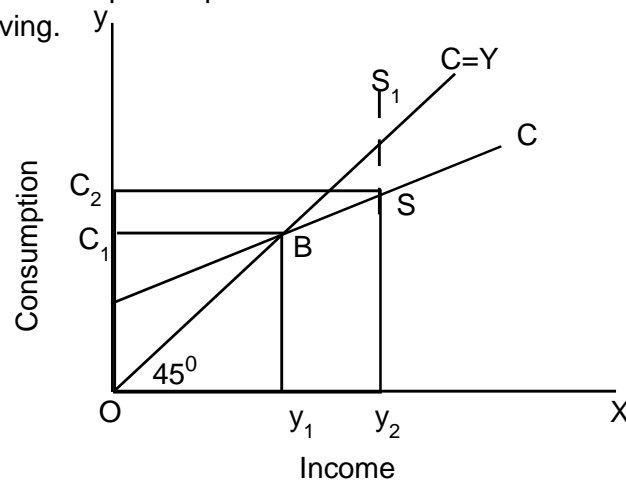
In the diagram at oy, level of income consumption and income are equal. When the income increased to oy_2 consumption increased from oc_1, to oc_2. The increases in consumption is less than the increase in income SS_1 shown the amount of saving which is spent on consumption.

5.3. Keynes's Psychological law of consumption

Keynes propounded the fundamental psychological law of consumption which forms the basis of the consumption function. The law implies that there is a tendency on the part of the people to spend on consumption less than the full increment of income. The law has three related propositions.

1. When income increases the consumption expenditure also increases but by less than proportionately.

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

3. Increased in income always leades to an increase in both consumption and saving. Thus with the increases in income both consumption and saving increases.

5.4. Concepts of Marginal propensity to consume (MPC) and Marginal

propensity to save (MPS) : The consumption function has two technical attributes or properties. 1) Average propensity to consume 2) Marginal propensity to consume.

1) Average propensity to consume (APC) The average propensity may be defined as the ratio of consumption expenditure to any particular level of income. It is found by dividing consumption expenditure by level of income A.P.C = $\dfrac{C}{Y}$ where 'C' stands for consumption expenditure and y stands for income. Similarly average propensity to save is the ratio of saving to income.

A.P.S. = $\dfrac{S}{Y}$ where 'S' stands for saving and 'y' stands for income.

The A.P.C. declines as income increases because the proportion of income spent on consumption decreases. But reverse is the case with APS. Which increases with increase in income.

2) Marginal propensity to consume : The marginal propensity to consume may be defined as the ratio of change in consumption to change in income. It can be found by dividing the change charge in consumption by change in income. So MPC = $\dfrac{\Delta C}{\Delta Y}$ where ΔC shows the change in consumption and Δy shows the change in income. Similarly we can find out the value of Marginal propensity to save by dividing the change in saving by change in income i.e. M.P.S. = $\dfrac{\Delta S}{\Delta Y}$ Where ΔS shows change in saving and Δy change in income. We can show these values in the following table.

Income y	Consumption C	APC = C/4	MPC OC/ΔY	APS S/Y (1–APC)	MPC ΔS/ΔY (1–MPC)
120	120	$\frac{120}{120} = 1$	—	0	—
180	170	$\frac{170}{180} = 0.92$	$\frac{50}{60} = 0.83$	0.08	0.17
240	220	$\frac{220}{240} = 0.91$	$\frac{50}{60} = 0.83$	0.09	0.17
300	270	$\frac{270}{300} = 0.90$	$\frac{50}{60} = 0.83$	0.10	0.17
360	320	$\frac{320}{360} = 0.88$	$\frac{50}{60} = 0.83$	0.12	0.17

Significance of MPC : Keynes is concerned primarily with the MPC, for his analysis pertained to the short run while APC is useful in the long remanalysis. The Keynesion hypothesis thus the marginal propensity to consume is positive but less than unit is of great analytical and practical significance. It explains the theoritical possibility of general over production or under employment equilibrium, and also relative stability of highly developed industrial economy. Thus the economic significance of the MPC lies in filling the gap between income and consumption through planed investment to maintain the desired level of income.

5.5. Determinant of consumption function

There are certain factors which will bring about a change in the propensity to consume in the long run. They are classified as subjective factors and objectives factors.

1. Subjective factors: It is the subjective factors which according to Keynes, basicically determine the propensity to consume. He laid stress on the role of psychology of human nature in determining the consumption function. Subjective factors relate both to the behaviour pattern of individuals and of business corporations. In the case of individuals the subjective factors that influence their consumption and saving are i.e. Prudence to save more now and enjoy in the future.

ii)   Pre caution against unfore seen emergencies like ill health and unemployment.

iii)   Foresight to provide for children's education, marriages, and own retired life.

iv)   Pride of being wealthy desire to leave good property to the children and miserlines and frugality.

In regard to the behaviour pattern of business corporations the factors that induce them to save, Keynes mentioned as

i) The desire to expand one's business.

ii) the desire to face emergencies successfully.

iii) the desire to demonstrate successful management.

iv) the desire to ensure sufficient financial provision against depreciation and obsolescence.

2. Objective factors : Keynes has mentioned six objective factors. Those are,

i) **Income distribution :** Propensity to consume depends on the income distribution in the community. Propensity to consume is high in the case of poor people and it is low in the case of rich. If the income is unevenly distributed making the poor poorer and the rich riche, propensity to consume will be low or the capacity to spend is low with the poor people. If income is distributed from rich to poor the propensity to consume will have upward shift.

ii) **Price level :** When the people expect a rise in prices, they purchase more now and store the goods. Then, propensity to consume will increase. When the people expect a shortage of goods in future, then also they buy more now. As such propensity to consume will rise. When prices are low, consumption expenditure will be low and consequently propensity to consume is low.

iii) **Taxation policy :** When taxes are raised, disposable personal income decreases and so the propensity to consume will decrease. This happens in the case of poor people. Taxes on rich may not affect consumption, but saving suffer.

iv) **Depreciation Reserves :** If depreciation reserves kept by the firms are raised, propensity to consume will decrease. If such reserves are decrease, propensity to consume may be rise.

v) **Windfal gains :** Windfal profits or losses will change the propensity to consume, profits increasing it, losses decreasing it. But in short period that may be equal and so their influence on the propensity to consume may be nil.

vi) **Rate of interest :** Higher rate of interest may encourage savings, thus decreasing the propensity to consume. This is an orthodox view. But Keynes says that the influence of the rate of interest will not be direct on the consumption expenditure.

In addition to these factors, population growth, sales efforts, wars, demonstration effect and availability of easy credit to consumers are some other factors that can influence the propensity to consume.

5.6. Measurer to raise propensity to consume :

i) **Redistribution of income :** If income is redistributed in favour of the poor, whose propensity to consume is higher from rich whose propensity to save is greater, it will go a long way in raising the consumption function.

ii) **Comprehensive social security :** The weaker sections of the society can be helped to increase their consumption through social security measures like unemployment relief, old age pensions, sickness insurance.

iii) **Credit facilities :** This will help the workers in raising their standard of living and increase their consumption.

iv) **Credit facilities :** Poor and middle class people can be enabled to buy more consumer goods through liberal consumer credit. The nationalised banks in India are trying to do something in this direction.

5.7. Multiplier, meaning

The concept multiplier was first developed by R.E. Khan Khan's multiplier was the Employment Multiplier. Keynes took the idea and formulated investment multiplier. Keynes considers his theory of multiplier as an integral part of his theory of employment. Keynes Income multiplier tells us that a given increase in investment ultimately creater total income which is many times the initial increase in income resulting from the investment. That is why it is called income multiplier or investment multiplier. Income multiplier indicates how many times the total income increases by a given initial investment. Keyne's investment multiplier is the coefficient relating to an increment of investment to an increment of income. i.e. $K = \dfrac{\Delta Y}{\Delta I}$ where 'K' is the multiplier, Δy is the change in Income and ΔI is the change in investment. Suppose Rs.10 crorer of investment leads to an icnrease of Rs.30 crores of income, the value of the multiplier is 3.i.e. $\dfrac{30}{10} = 3$. So multiplier is the number by which the change is investment must be multiplied in order to get the resulting change in income. The value of multiplier is determined by the marginal propensity to consume. The relationship between the multiplier and the marginal propensity to consume is as follows :

$\Delta Y = \Delta C + \Delta I$ …. (1)

$\Delta Y - \Delta C = \Delta I$ …. (2)

Dividing the equation (2) both sides by ΔY

$$\frac{\Delta y}{\Delta y} - \frac{\Delta C}{\Delta Y} = \frac{\Delta I}{\Delta Y} \;\; …. (3)$$

$$1 - \frac{\Delta C}{\Delta Y} = \frac{\Delta I}{\Delta Y} = \frac{\frac{1}{\Delta Y}}{\Delta I} \;\; …. (4) \qquad\qquad 1 - MPC = \frac{\Delta I}{\Delta Y}$$

By definition we know that $K = \dfrac{\Delta Y}{\Delta I}$

$$\therefore 1 - \frac{\Delta C}{\Delta Y} = -\frac{1}{k} \qquad MPC = \frac{\Delta C}{\Delta Y} \ \text{......ा (5)}$$

$$K = \frac{1}{1 - \frac{\Delta C}{\Delta Y}} = \frac{1}{1 - MPC} - \frac{1}{-MPS} \text{......ा (6)}$$

$$\therefore K = \frac{1}{MPS} \ \text{......ा (7)}$$

In other words, the simple method is that from marginal propensity to consume we find marginal propensity to save which can be found by deducting marginal propensity to consume from one (i.e. 1 – MPC) and then find its reciprocal. Thus the multiplies is the reciprocal of marginal propensity to save (MPS) So K = $\frac{1}{MPS}$. The following table shows that the size of of multiplier varies directly with the MPC and inversely with the MPS. Since the MPC is always greater than zero and less than one, the multiplier is always between one and infinity.

Derivation of Multipler

$\Delta C/\Delta Y$ (MPC)	$\Delta S/\Delta Y$ (MPS)	K (Multiplier Coefficent)
0	1	1
$\frac{1}{2}$	$\frac{1}{2}$	2
$\frac{2}{3}$	$\frac{1}{3}$	3
$\frac{3}{4}$	$\frac{1}{4}$	4
$\frac{4}{5}$	$\frac{1}{5}$	5
$\frac{8}{9}$	$\frac{1}{9}$	9
$\frac{9}{10}$	$\frac{1}{10}$	10
1	0	∞ (Infinity)

5.7.1 Working of the multiplier

The multiplier theory explain explains the cumulative effect of a change in investment via its effect on consumption expenditure. Suppose that in an economy MPC is ½ and investment is raised by Rs. 100 crores. This will immediately lead to a rise in production and income by Rs.100 cores. Half of this new income will be immediately spent on consumption goods, which leads to increase in production and income by the same amunt and so on. The process is set out in Table II.

Table II Sequence of Multiplier

Round	ΔI	ΔY	ΔC	ΔS ($\Delta Y - \Delta C$)
0				Increment in Saving
1	100	100	50	50
2		50	25	25
3		25	12.5	12.5
4		12.5	6.25	6.25
5		6.25	3.12	3.12
Finally	100	200	100	100

This process of Income generation continues till the total income generated from Rs. 100 crores. of investment rised to 200 crores. This is also clear from the multiplier formula $\Delta y = K.\Delta I$ or 200

= 2 x 200 where K = 2 (MPC = $\frac{1}{2}$) and ΔI = Rs. 100 crores. The working of multiplier is shown diagrammatically in figure 5.2.
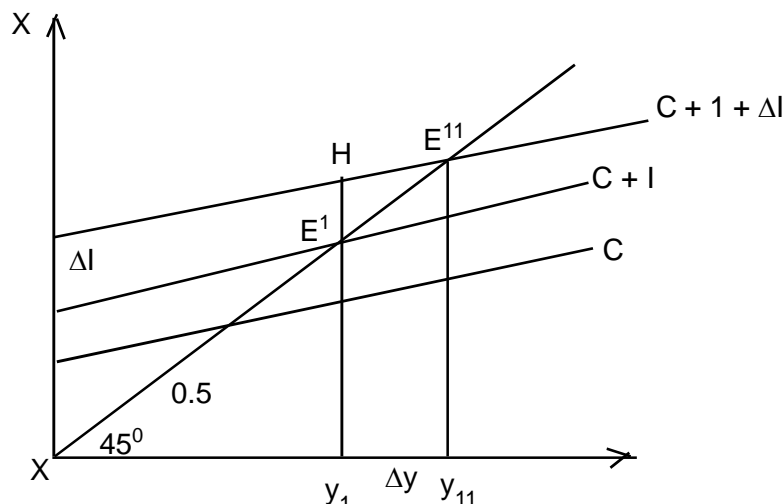

Figure - 5.2

We know that the national income is determined at the level where aggregate demand (C + I) cuts the aggregate supply curve (45^0 line). This point of intersection is at E_1 in the figure 5.2. The

curve 'C' represents the marginal propensity to consume which is assumed as ½. That is why the slope of 'C' curve is 0.5. Since the aggregate demand curve (C + I) cuts the 450 line at E_1, OY_1 is the level of income determined. If now investment is increased to E_1H (ΔE) We can find out the increase in income (ΔY). As a result of investment E_1H the aggregate demand curve shifts to upwards to (C + I + ΔI). This new aggregate demand curve cuts the 45^0 line at E^{11}. So that OY income is determined which is double of EH.

5.7.2. : Assumptions of Multiplier

Keynes's theory multiplier works under certain assumptions which limit the operation of the multiplier. They are as follows :

i) There is a change in autonomous investment.

ii) The Marginal propensity to consume is constant.

iii) Consumption is a function of current income.

iv) There are no time lags in the multiplier process.

That means an increase in investment instantaneously leads to a multiple increase in income.

v) Consumer goods are available in response to effective demand for them.

vi) There is surplus capacity in consumer goods industries to meet – the increased demand for consumer goods in response to a rise in income following increased investment.

vii) As long as there is unemployment, functioning of multiplier will be true to the theory.

viii) Other resources of production are also easily available within the economy.

ix) There is no changes in prices.

x) There is less than full employment level in the economy.

5.7.3. Leakages of multiplier : Leakages are the potential diversions from the income stream which tend to weaken the multiplies effect of new investment. The following are some of the important leakages to the income stream :

i) **Savings :** A part of the new income may be saved by the people. If people decide to save more. M.P.C. will decrease, then the multiplier value also decreases.

ii) **Clearance of old debts :** If people try to clear off their old debts with new incomes, a leakage occurs in the income flow.

iii) **Hoarding :** When new income are noarded for liquidity purposes, it becomes a serious leakage.

iv) **Buying of old securities and shares :** When people buy old securities and shares with new incomes, consumption expenditure decreases and the working of multiplier is distrubed.

V)   **Price changes :** If there is price inflation, consumption expenditure have to be increased. Increased incomes will be used to face the price inflation, without any increase in consumption in real terms.

v)   **Taxation :** During the period of multiplier action additional taxes should not be imposed. New taxes will reduce the consumption expenditure. Multiplies value decreases.

vi)   **Imports :** If imports are more than exports, income goes to foreign, countries to the extent of the deficit in foreign trade. Income decreases and consumption expenditure falls.

All these leakages to the income-flow will blunt the action of the multiplier. The value of multiplier will be reduced due to their presence. Therefore leakages to income flow should be properly controlled.

5.7.4. Importance of Multiplier : Multiplies theory is useful in many ways.

i)   It shows the importance of investment in economic development.

ii)   As a part of antidepression policy, multiplies theory is useful in deciding the level of public investment.

iii)   It plays a vital role as an instrument of income building.

iv)   It is of special importance in the study and control of business cycles.

v)   It furnishes guidelines for appropriate income and employment polices.

vi)   It also explains the expansion of public sector in modern times.

Thus, Multiplier theory has a great practical value in the macro economic analysis and in the formulation of public policies.

5.7.5. Summary

Aggregate demand comprises of total consumption expenditure, total investment and total government expenditure and net value of balance of trade. $AD = C + I + G + (X - M)$. Consumption function shows that consumption is a function of income. $C = f(y)$ where 'C" is consumption and y is income consumption function schedule shows various amounts of consumption at different levels of income. If income increases consumption also increases, but by less than proportionately, because in short period consumption habits of the people are stable and also people save some portion of their income when their income increases. Keynes used certain concepts like APC, MPC, APC, MPS. APC means average propensity to consume, i.e. the proportion of income spent on consumption $APC = \dfrac{C}{y}$. Marginal propensity to consume shows the proportion of additional consumption in additional income. $MPC = \dfrac{change\ in\ C}{change\ in\ Y} = \dfrac{\Delta C}{\Delta Y}$. MPC is always less than oen and more than zero. Average propensity to save shows the ratio between income and savings. $APS = \dfrac{S}{Y}$ Where 'S' is savings and y is income. Marginal propensity to save shows the proportion of additional savings in the additional

income MPS = $\dfrac{\text{Change in Savings}}{\text{Change in Income}}$ = $\dfrac{\Delta S}{\Delta Y}$ Propensity to consume is stable in short period. As income increases, MPC starts decreasings. There are some other factors that can inlfuence the propensity to consume. The are classified as subjective factors and objective factors. The psychological reasons which motivate people to save are known as subjective factors. Keynes has mentioned them as the desire to save for future needs, the desire to acquire wealth in the case of individuals. In the case of business concerns the subjective factors are, to build sufficient reserves for future expansion, to meet unexpected costs to meet depreciaiton and modernisation. Keynes has mentioned six objective factors. a) Income distrbtuion b) Price level, c) taxation policy d) Depreciation reserves e) Wind full gains f) rate of interest. Thus, consumption functio depends mainly on income and secondly on many subjective and objective factors.

The concept of multiplier was first developed by R.F. Khan. Keynes took this idea and formulated investment multiplier. He consideres this theory of multiplier as an integral part of his theory of employment. Keynes Income multiplies tells us that a given increase in investment ultimately creates total income which is in man of times the initial increase in income resulting from the investment. Keyne's investment multiplier is the coefficient relating to an increment of investment to an increment

of income. K = $\dfrac{\Delta Y}{\Delta I}$. where 'K' the mutliplier, ΔY change in Income, ΔI is change in investment. So multiplier is the number by which the change in investment must be multiplied in order to get the resulting change in income. Keynes multiplier works under certain assumptions which limit the operation of the multiplier, those are a) MPC is constant b) There is change in autonomous, investment c) NO time lag.

There are some leakages to the income stream in during the working of multiplies. Those are a) Savings b) clearance of old debts, c) Hoarding d) buying of old securities and shares e) Price changes f) taxate g) imports. These leakages reduce the income level. The theory of multiplier has a great poractual value in macro economic analysis and in the formulation of public policies.

5.7.5. References and Exercises

F.S. Brooman, Macro Economics

Edward Shapiro : Macro economic analysis

A.H. Hansen : A guide to Keynes

J.H. Makin : Macro Economics

1)　　What is meant by consumption function or propensity to consume ? Write about the concepts of Average Propensity to consume and marginal propensity to consume.

2)   What are the factors that determine the propensity to consume ?

3)   What do you understand by consumption function ? Discuss its significance in Keynerian theory of employment ?

4)   Discuss the concept 'investment multiplies' and its role in the theory of income and employment?

5)   Explain the working multiplies.

6)   Explain the leakages to income flow when multiplies is working.

LESSON 6
INVESTMENT DEMAND FUNCTION

Contents

6.0 Aims and objectives :

In this lesson we will study about the meaning and determinants of investment. We also study about the concept of marginal efficiency of capital and its importance in determining the level of investment. Also we study about the principle of Accelerator and its functioning which discribes the effect of consumption upon investment.

6.1: Introduction :

In the previous lesson we have studied consumption function. Consumption function underlines the crucial importance of investment Because propensity to consume is stable, employment can be created only by increasing investment. It becomes necessary to fill the gap between income and consumption by increasing investment, otherwise it will not be profitable to increase output and employment. It is there fore clear that investment plays a vital role in increasing income and employment in a country.

6.2 : Meaning of investment :

In ordinary language investment means to buy sharer, stocks, bonds and securities which are already existing in stock market. But this is not real investment, because it is simply a transfer of existing assests Hence this is called financial investment which does not effect aggregate spending. In keynesian terminology, investment refers to real investment which adds to capital equipment. It leads to an increase in the level of income and production by increasing the production of and purchase of capital goods. Investment thus includer new plant and equipment, construction of public works like dams, roads, buildings etc, net foreign investment, inventories, and stocks and shares of new companies.

6.3 Types of investment :

Investment may be divided on the gross and net basis. Gross investment is total amount spent on new capital assets in a year. But some capital stock wears out every year and is used up for depreciation and obsolensence. Net investment is gross investment minus depreciation and obsolensence charger. This is the net addition to the existing capital stock of the economy. If gross investment equals to depreciation, net investment is zero and there is no addition to the economy's capital stock. If gross investment is less than depreciation, there is disinvestment. Thus for an increase in the real capital stock of the economy, gross investment must exceed depreciation then there should be net investment.

From the point of view of the theory income and employment, the more important classification of investment is into autonomous investment and induced investment. Investment which independent of level of income is called autonomous investment. It is income in elastic. It is influenced by exogenous factor like innovations, growth of population, research, social and legal institutions, weather changer, war, revelations etc. But it is not influenced by demand. Rather it influences demand. Investment in economic and social overheads generally done government is the best example of autonomous investment. Most of the investment undertaken to promote planned economic development, or defence investment can be represented diagramatically as in the figure 6.1 given below.
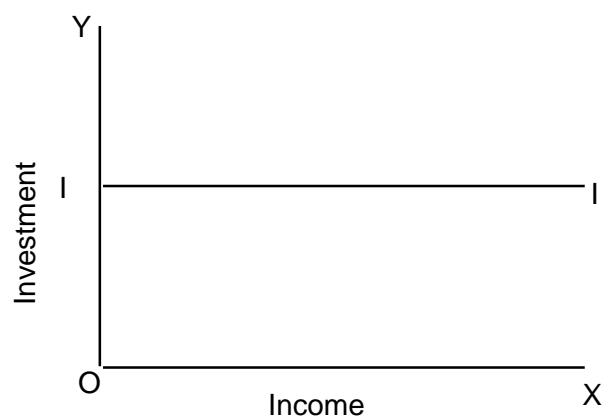

Figure 6.1. Autonomous investement

Income is shown along x axis and investment along y axis I I is the investment curve drown parallel to the 'x' axis. This meant that what ever the level of income, the investment remains constant.

Induced investment : Real investment may be induced Investment which varies with the change in national income is called induced investment. It is profit or income motivated. Factors like prices, wages, interest changes which affect profit influence induced investment. Similarly demand also influence it. When income increases, consumption demand also increases and to meet this investment also increases. So induced investment is a function of income. i.e $I = f(y)$. It is income elastic. It increases or decreases with the rise or fall in incomes as shown in the figure 6.2 I_1I_1 is the induced investment is zero at OY_1, income. When income riser to OY_3, induced investment is $I_3 Y_3$. A fall income to OY_2 also reduces investment to I_2Y_2.
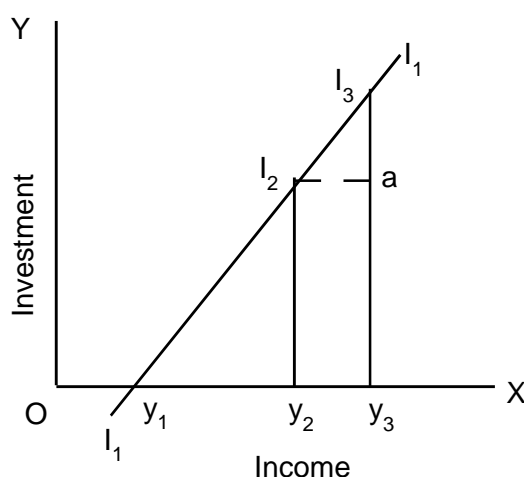

Figure 6.2. Induced investement

By this we conclude that autonomous investment is income in elastic and induced income is income elastic.

6.4 Factors governing investment

The decision to invest in a new capital asset depends on whether the expected rate of return on new investment is equal to or greater or lessthan the rate of interest to be paid on the funds needed to purchase this asset. It is only when the expected rate of return is higher than the interest rate that investment will be made in acquiring new capital asset Broadly speaking, inducement to invest depends on three factors. They are a) cost of capital asset. b) the expected rate of return from it during its life time c) the rate of interest. Keynes sumps up these factors in his concept of the marginal efficiency of capital (MEC).

Marginal efficiency of capital : When an entrepreneur instals a new machine, he is undertaking the act of investment, expecting to reap profits in future from the sale of out put of the machine. But the future by its nature is uncertain. The great uncertainity about the future gives rise to the extreme instability and fluctuations in the rate of return from the investment. To compensate them be bearing

these risks, the entre preneurs want a high enough rate of profit. If this rate of profit is not adequate, the inducement to invest will be very weak. The marginal efficiency of capital is the highest rate of return expected from an additional unit of a capital asset over its cost. Since it referes to the expected rate, rather than the current rate of profit, marginal efficiency of investment is liable to a great deal of fluctuations in the short run. It is the prospective yield which gives the marginal efficiency of capital its most important characterstic i.e instability.

While making investment, the businessmen compare the supply price or replacement cost of the machine and its prospective yield. Keynes definer marginal efficiency of capital as "that rate of discount which would make the present value of the series of annuities given by the returns expected from the capital asset during its life just equal to its supply price. In other words, marginal efficiency of capital is the rate at which prospective yield of an asset is discounted so as to make it just equal to the supply price of the capital asset symbolically, this can be expressed as :

$$S_P = \frac{R_1}{(1+i)} + \frac{R_2}{(1+i)^2} + ... \frac{R_n}{(1+i)^n}$$

Where S_P is the supply price or the cost of capital asset, R_1, R_2 and R_n are the prospective yields or the series of expected annual returns from the capital asset in the years 1, 2 and n, I is the rate of discount which makes the capital discount which makes the capital asset exactly equals to the present value of the expected yield from it. Thus 'I' is the MEC or the rate of discount which equates the two sides of the equation. If the supply price of a new capital asset is Rs 1000 and its life time is two years, it is expected to yield Rs 550 in the first year and Rs 605 in the second year.

Its MEC is 10 percent which equates the supply price to the expected yields of this capital asset. Thus

$$(Sp) \text{ Rs } 1000 = \frac{550}{(1.10)} + \frac{605}{(1.10)^2} = 500 + 500$$

In the equation (1) the term $\frac{R_1}{(1+i)}$ is the present value of the capital asset. Present value is the value of now of payments to be received in the future. It depends on the rate of interest at which it is discounted.

Investment demand curve : The marginal efficiency of capital falls as investment increases. There are two reasons for this. One, the installation of a larger number of similar machines leads to a reduction in their prospective yields just as consumption of more units leads to a decrease in marginal utility. Secondly, the prices of such machines will go up as their demand decreases. This will add to the costs. Thus costs go up on the one hand and the market price of their products goes down as production increases. Hence the marginal efficiency of capital goes down as investment increases. This is because with more investment the productive capacity of the economy will increase and this depress the expected rate of profit. It is clear that the marginal efficiency of capital will be different at different levels of capital investment. As investment increases, marginal efficiency of capital goes

down. Thus the MEC curve is likely to be a curve falling from left to right. We can construct an imaginary schedule as under.

Table - I

Diminishing marginal efficiency of capital

Investments (Rs)	Marginal efficiency of Capital
10,000	12%
12,000	10%
14,000	8%
16,000	6%
18,000	4%
20,000	2%

We see from the above schedule that when investment increases from Rs 10,000 to Rs 20,000, marginal efficiency of capital goes down from 12% to 2%. This schedule can be easily converted into MEC curve as shown in figure 6.3 given below. On the ox axis the different amounts of investment and on oy axis, the marginal efficiency of capital and rate of interest are shown. The MEC represents the marginal efficiency of capital. It slopes down wards from left to right which means as investment increases the marginal efficiency of capital goes down.
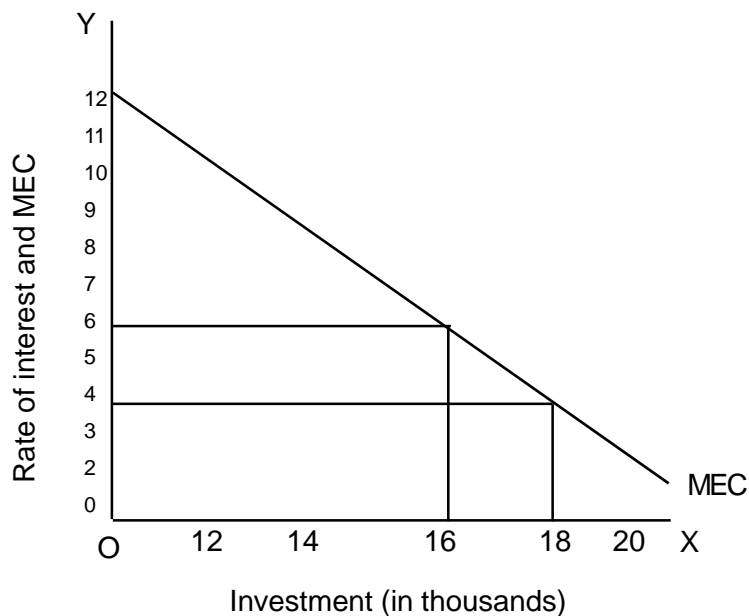

Figure 6.3. Marginal efficiency curve

Investment at any time depends on the rate of interest prevailing at that time. If the rate of interest is 6%, then it will be seen in figure 6.3 that the entrepreneurs will invest Rs 10,000 in capital

goods, because at this investment marginal efficiency of capital is equal to rate of interest suppose the rate of interest goes down to 4%, then it will become worth while to invest Rs 18,000. Thus the marginal efficiency of capital and the rate of interest move together. We may thus conclude that gives a marginal efficiency schedule or curve, the investment depend on the prevailing rate of interest. Investment will reach equilibrium. When MEC and rate of interest are equal.

6.6 Role of business expectations in determining MEC

Any investment is basically profit motivated, either present profit or future profit. The decisions of additional investment depend on the marginal efficiency of capital. It is the expectations of the businessmen regarding the prospective yield which play a vital role in determining the marginal efficiency or capital and hence investment, which inturn determines the volume of employment and the level of national income. The most important characterstic of the marginal efficiency of capital is its instability and this is caused by the uncertainity in prospective yield or business expectations. Expectations of the businessmen are categorised as two types.

a) Short term expectations b) Long term expectations

a) Short term expectations : Expectations of the businessmen in relation to short term are known as short term expectations. The short term expectations are more or less known to be certain such as the size of existing stock of capital assets and the intensity of the consumer demand for the goods which can be produced with these assets. Short term expectations relate to the sale proceeds of the goods made with the existing plant. The producers will be able to assets the efficiency of the existing machines as they house experience with them. Current expectations are short term expectations, and as such, they can be altered by observing the current changes in the market. Present demand for goods is known, present efficiency of machines is known, present purchasing power is known and present profit margin is known. That is why, short term expectations have more stability than the long term expectations. Knowledge of the recent past is helpful. Events or conditions of the recent past can be expected to continue in near future also. There fore, it is easier to predict about the near future rather than distant future. So the short term expectations may not have much influence on investment decisions.

b) Long term expectations : Expectations of the business men in relation to long term are known as long term expectations. The element of near – certainty which is present in short term expectations will be absent for long term expectations. Long term expectations relate to the sale proceeds of out put resulting from the alterations in the size of plant or from entirely a new plant. In other words, they are expectations about future changes in the size of the stock of capital assets and about changes in the level of aggregate demand during the future life of these assets obviously, the factors on which long term expectations are based are uncertain. The following factors will influence the long term expectations.

1. **Life of the capital assets : L**ong term estimates of income depend on the life expectancy of the capital assets. No produces can be certain about the number of years that a machine will be in use.

2. **Habits, fashions and tastes** : Prediction of future habits, tastes and fashions is also difficult. At present they may be stable, but in distant future they are very uncertain.

3. **Maintaince expenditure :** It is difficult to estimate maintainance expediture of a machine for all its life time. It is impossible to predict about the number of break downs and repairs that a machine may require in future.

4. **Technology :** Research for a new machine may or may not be success. Future technology can not be estimated correctly. Present machines may become absolute any time in future with the arrival of new machines.

5. **Taxation :** If taxes rises in future, prospective yield will decrease. Future taxation policies can not be estimated now.

6. **Population :** An increase in population will increase the aggregate demand. But, it is unknown, how much will be the population growth in future. Composition of population also has a bearing on future expectations. It is difficult to estimate, whether the children are going to be more or the old people are going to be more in future.

7. **Wages and prices :** Estimates about future wages and prices are also difficult to make. Prices are not only influenced by the internal events but also by international events.

8. **Non – economic factors :** Some political factors like change of governments and wage can not be prophesised now. They influence the long term expectations very strongly.

Due to all these uncertainties and instabilities, investment demand schedule can not be certain and stable. Keynes considers psychology of the entrepreneurs as one of the most important factors that influence the future expectations self confidence of the optimistic entrepreneurs will have a bigger say in their expectations than objective consideration. Self confident people can adapt them selves easily to the changing trends. So they may make optimistic decisions and help economic expansion. Their expectations will also be on the high side. But, pessimists are careful people and their expectations will be on the low side. For them the future is all bleak and trouble some. And so, their investment decisions will also be on the low side. Investment demand schedule is, therefore, highly unstable. Its instability makes the economy waves between hope and despair. Thus the businessmen's expectations plays a crucial role in determining the level of investment.

6.7 Accelerator :

In the study of multiplier, we have seen how a change in investment leads to a change in income. The principle of Accelerator shows the effects of a change in consumption on investment. The multiplier shows the dependence of consumption on investment, where as the accelerator shows the dependence of investment on consumption. Thus accelerator is a macro economic analytical tool that measures the effect of an increment in the rate of consumption on the volume of investment. It expresses the ratio of net change in consumption to the net change in investment.

The principle of Acceleration is associated with the name of Prof. J.M. Clark an American economist. The principle of acceleration is based on the fact that the demand for capital goods is derived from the demand for consumer goods which the former helps to produce. The acceleration principle explain the process by which an increase in the demand for consumer goods leads to an increase in investment on capital goods. It is ratio between induced investment and change in

consumption. Symbolically $\beta = \dfrac{\Delta I}{\Delta C}$ or $\Delta I = \beta \Delta C$ where β is the accelerator coefficient, ΔI is the net change in investment and ΔC is the net change in consumption. For example an increase in consumption expenditure of Rs 10 crores leads to an increase in investment of Rs 30 crores, the accelerator coefficient is 3. But the accelerator in Economics is not to be confused with the accelerator in a motor car. In the case of car, the accelerator makes it run faster and ever faster. That is not the case with investment in business. It does not increase faster and ever faster, the down ward trend also appears after some time. The accelerator in economics express only a functional relationship between consumption demand and investment demand, i.e the demand for machines which makes the consumer goods, It makes the level of investment is function not of the level of consumption, but of the rate of change of consumption. The level of investment is a function of the rate of change in level of income. "This expression of acceleration maintains the hypothesis that a fluctuation in the independent variable will give rise to a greater fluctuation" in the dependent variable. The Economics of cycles and growth.

6.8 Working of Accelerator :

An illustration will make clear the working of the accelerator. Suppose to produce cloth worth Rs 100, require on machine worth Rs 300, which means the value of accelerator is $\dfrac{300}{100}$ = 3.(i.e capital out put ratio as 1.3). If the demand rises to by 100 rupees, additional investment worth 300 rupees takes place. If the existing level of demand for cloth remains constant, let us say, at 500 rupees then to produce this much of cloth we need 5 machines worth Rs 1500. At the end of one year, let us suppose one machine becomes useless as a result of wear and tear, so that at the end of one year a gross investment of Rs 300 must take place to replace the old machine in order that the stock of capital is capable of producing output worth 500 rupees. In the third period, demand rises to 800 rupees. To produce output worth 800 rupees, we need 8 machines. But our previous stock consisted of only 5 machines. Thus if we are to produce output worth of Rs 800, we must instal 3 new machines, worth Rs 900. In addition, since at the end of one period, one old machine has become useless, even to maintain previous stock of machines, we need one new machine to replace of the old one. Thus net investment will be 900 rupees and replacement investment Rs 300, so that our gross investment rises from 300 rupees in period 2 to Rs. 1200 in period 3. A 60% rise in demand gives rise to 400 percent increase in gross investment. In the fourth period, demand rises from Rs 800 to Rs 1000 (25%) but gross investment is only Rs 900 which Is 25% less than the previous period. In the fifth period, even though demand remains constant, gross investment falls to Rs 300 which is 33.3% of the forth period, while net investment falls to zero. Thus is order to keep the economy prosperous. mere standing still or running at a slow pace in no good. In the above table, we see that when out put or income becomes stabilised round the peak (period 4 and 5) the pressure for the decline becomes more intense, because a half in the increase in out put means an accelerated contraction in investment spending. There is no gross investment at all in period 6, which means that relative to the lower level of output the system is still in excess capacity. The wear and tear of equipment is a technical process and is divorced from the rate of economic contraction. The decline in investment expenditure can not go beyond zero investment. Thus the table reveals that net investment depends on the change in

total out put, given the value of accelerator. So long as the demand for final goods rises, net investment is positive. But when it falls net investment is negative. The following table shows the working of accelerator.

Table - II

Demand for cloth in rupees	Needed stock of capital	Replacement expenditure	Net investment	Gross investment investment
Period 1 500	5 machine =1500 rupees	1 machine 300 rupees	0	300 rupees
Period 2 500	5 machine =1500 rupees	1 machine 300 rupees	0	300 rupees
Period 3 800	8 machine =2400 rupees	1 machine 300 rupees	3 machines = 900 rupess	1200 rupees
Period 4 1000	10 machine =300 rupees	1 machine 300 rupees	2 machines = 600 rupees	900 rupees
Period 5 1000	10 machine =3000 rupees	1 machine 300 rupees	0 machines	300 rupees
Period 6 800	8 machine =2400 rupees	1 machine 300 rupees	2 machine = 600 rupees	–300 rupees

6.8.1 Assumptions : It seems that the explanation of fluctuations in the capital goods industries provided by the principle of acceleration is too good to be realistic. The assumptions on which it is based are too rigid and do not hold good in real life. If increase in demand for consumption goods led to much more than proportionate increase in the capital goods, fluctuations in the capital goods industries would be much larger than they actually are, we have assumed great inflexibility of out put in the consumer goods industries and great flexibility in capital goods industries. The following assumptions are made in the discussion of the accelerator make it unrealistic.

1. It is assumed that there is no excess capacity in consumer goods industries, that means no machines are lying idle and shift working is not possible. It there had been excess capacity and shift working was possible, the supply of goods could be increases with the existing equipment and the accelerator would not come into play.

2. The accelerator principle assumes a constant capital output ratio.

3. It is also assumed that the increase in demand is permanent.

4. There is elastic supply of capital credit.

5. It further assumes that the increase in output immediately leads to a rise in net investment.

6.8.2 : The super multiplies or leverage effect : In order to measure the effect of initial investment on income Hicks has combined the multiplier and the accelerator mathematically and

given it the name of super multiplier. The combined effect of the multiplier and accelerator is also called the leverage effect which may lead the economy to very high or low level of income propagation. As investment expenditure increase the income and consumption levels will rise. Consumption expenditure thus leading to an increase in investment once again. Investment expenditure increases, thus leading to a further rise in the levels of income and consumption. Like this all the variables go on increasing one after other. This combined effect of multiplier and accelerator called as super multiplier.

The super multiplies is worked out by combining both induced consumption (i.e $\frac{\Delta C}{\Delta Y}$ or MPC) and

induced investment i.e $\frac{\Delta I}{\Delta Y}$ or MPI.) $Kg = \frac{1}{1 - c - v} = \frac{1}{s - v}$

Where Ks is the super multiplier, 'c' is marginal propencity to consume, 'v' is the marginal propencity to invest and 's' is the marginal propencity to save. Let us explain the combined effect of multiplier and accelerator with the help of the formula or equation. Suppose C = 0.5 and V = 0.4 and autonomous investment increases by Rs 100 crores. The increase in income will be

$$\Delta y = \frac{1}{1 - 0.5 - 0.4} \times 100 = \frac{1}{0.1} \times 100 = 10 \times 100 = 1000$$

It shows that a rise in autonomous investment by Rs 100 crores has raised income to Rs 1000 crores. The simple multiplier would have raised income to only Rs 200 crores, given the value of K1 the multiplier as 2. (since MPC = o.5) But the multiplier combined with the accelerator (Ks = 10) has raised income to Rs 1000 crores which is higher than generated by the simple multiplier. Table II explains how the process of income generation via the multiplier and accelerator with the value of super multiplies Ks = 10 leads to a rise in income to Rs 1000 crores with an initial investment of Rs 100 crores.

TABLE - III

Period (t) (e)	initial investment	Induced consumpton C = 0.5	Induced investment V = 0.4	increase in Income $\Delta Y = C + V$	Total income in Income
(1)	(2)	(3)	(4)	(5)	(6)
t = 0	0	0	0	0	0
t + 1	100	–	–	100	100
t + 2	100	50	40	90	190
t + 3	100	45	36	81	271
t + 4	100	40.5	32.4	72.9	343.9
t + 5	100	36.45	29.16	65.61	409.51
-----	-----	-----	-----	-----	-----
t + n	100	0	0	0	1000

In period t + 1, constant investment of 100 crores is injected into the economy but there is no immediate induced consumption or investment. In period t + 2, induced consumption of 50 crores

taken place out of the income 100 crores of t +1, since the marginal propencity to consume is 0.5, while there is an induced. Table II explain how the process of income generation Via the multiplier and teh value of accelerator with the value of supermultiplier KS = 10

Investment of Rs 40 crores out of 100 crores of income (V being 0.4). The increase in income from period 1 to 2 is 90 crores. This cumulative process of income propagation continues till in period t + n, induced consumption, induced investment and increase in income dwindle to zero. If we add up the increase in consumption, investment and income from period t + 1 to t + n, the total income increases to Rs 1000 crores, total, total consumption Rs 500 crores and total investment to Rs 400 crores, given the initial investment of Rs 100 crores. The dynamic path of income is shown in figure 6.4. Income is measured vertically and time horizontally. The curve OYt shows the time path of income with a super multiplies of 10. The curve rises with time and reaches the new equilibrium level of income Y_1 and flattens out. It indicates that income increases at a decreasing rate.

Figure - 6.4.
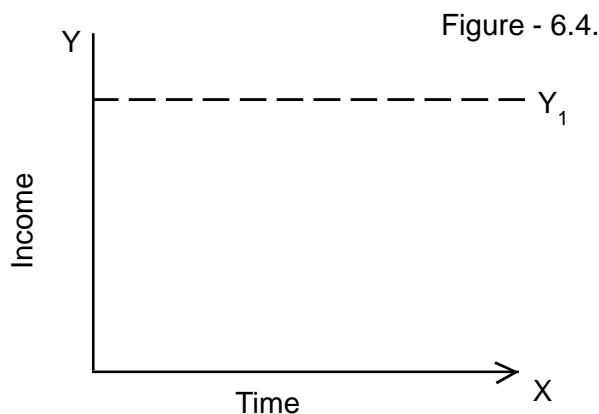
Importance of super multiplies time

The concept of super multiplier has a very great practical value in macro economic analysis. It is a complete and fally explanation of the effects of multiplier and accelerator in their joint operation. It provides a clear understanding of the problems of trade cycles, especially the turning points of different stages in trade cycles. It is helpful to the government in formulating its expenditure policy.

6.8.3 Criticism of Accelerator : The accelerator principle has been criticised by economists for its rigid assumptions which tend to limit its smooth working. The following are its limitations.

1.   The accelerator principle is based on a constant capital output ratio. But this ratio does not remain constant in the modern dynamic world. Investment and improvements in techniques of production constantly taking place which lead to increase in out put per unit of capital.

2.   The accelerator principle assumes the availability of resources. Resources should be elastic so that they are employed in capital industries to enable them to expand. This is possible when there is unemployment in the economy. But once the economy reaches

the full employment level capital good industries face the non availability of sufficient resources. This limits the working of the accelerator principle.

3. The accelerator principle fails to explain the time lag. If time lag is high the effect of new investment will not felt immediately.

4. If the firms anticipate future demand, capital equipment has already been installed, it would not lead to induced investment and the accelerator effect will be zero.

5. The accelerator principle neglects the role of expectations indecision making on the part of entrepreneurs. The investment decisions are not influenced by demand alone. They are also effected by future anticipations like stock market changes political developments, international events, economic climate, etc.

6. The accelerator principle is weak in that it neglects the role of technological factors in investment. Technical changes may be either capital saving or labour saving. There fore reduce or increase the volume of investment, as pointed out by prof.knox.

7. The acceleration principle assumes an elastic supply of credit, so that when there is induced investment as a result of induced consumption, cheap credit is easily available for investment in capital goods industries. If cheap credit is not available in sufficient quantities, the rate of interest is high and investment will be low. Thus acceleration will not work fully.

Despite these limitations, the principle of acceleration makes the process of income propagation clearer and more realistic than the multiplier theory. The multiplier shows the effect of a change in investment on income via consumption, while the acceleration shows the effect of consumption or output on investment and income. Thus acceleration principle explains the volatile fluctuations in income and employment as a result of fluctuations in capital goods industries. It can explain the upper turning points better than the lower turning points.

6.4. Summary :

Investment refers to real investment which adds to capital investment. It leads to an increase into the level of income and production investment may be divided on gross and net basis. Gross investment is total amount spent on new capital assets. Net investment is grass investment minus depreciation. This is the net addition to the critising capital stock of the economy. Investment is also divided into autonomous and included investment. Investment which is independent of the level of income is called autonomour investment. On the other hand induced investment depends upon the level of income, price level, profits etc. Public & investment is best example for autonomour investment where as private investment is induced investment. The decision to invest on a new capital depends on the rate of interest and the expected rate of return on new investment. Induced investment depends on three factors (a) cost of capital asset b) the expected rate of returni c) the rate of interest. The expected rate of return is called as marginal effiency of capital by Keynes. Marginal effcines of capital is the highest rate of return expected frm an additional unit of a cpital asset over its cost Keynes difinese marginal efficiency of capital as "that rate of discount which would make the present value of the series of annuties given by the returns expected from value of the series of annuties given by the returns expected from the capital asset during the life just equal to its supply price.

$$S_P = \frac{R_1}{(1+i)} + \frac{R_2}{(1+i)^2} + \ldots \frac{R_n}{(1+i)^n}$$

Where S_P is the supply price of the capital asset, R_1, R_2 are the prospective yeilds from the asset in various year. 'r' is rate of discount. MEC is a decreasing function of investment. higher the investment, lower will be the marginal efficiency capital MEC depends on the business expectations. They are a) short term b) long term. Expectations of the business in relation to short tern are known as short term expectations they are more stable and known so that they may not have much infuence on investment long terme xpectations are uncertain. So many factors can influence the longterm expectations of the businessman. The principle of Accelerator shows the effect of a change in consumption on investment. It expresive the ratio of net change in consumption to the net change in investment. Symbolically $\beta = \Delta I/.\Delta C$. Where β is the accelerator coefficient, ΔI is the net change in investment, ΔC the net change in consumption.

Super multiplier : Hicks has combined the multiplier and the accelerator mathematically and given it hte name of super multiplier. It provides a complete and fully explanation of the effects of multiplier and accelerator in their joint operation. It provides a clear under standing of the problems of busines cycles, especially the turning points of different stages of trade cycles. It is helpful to the govt. informultany its policeis.

6.8.5. Important questions

1.   What do understand by autonomour and induced investment ? What are the factors that govern induced investment ?

2.   What do you understand by marginal efficiency of capital ? Explain how it affects induced investment ?

3.   Explain the Keynes' definition of marginal efficiency of capital ? What is the position of MEC curve ?

4.   What are factors that influence the MEC ? or What is the role of business expectations in determiny MEC?

5.   What is Acceleartor ? Show the workign of Accelerator principle and what are its limitation s?

6.   What is super mutliplier ? Show its importance in business cycles ?

LESSON 7
INTEREST

Contents

7.1. Aims and Objectives :

This chapter discusses some of the important theories of interest rate such as classical, the loanable funds and the Keynesian theory of interest. Besides certain issues like the natural and market rate of interest are also examined in the present chapter. Of the theories discussed below, the keynesian liquidity preference theory that determines the interest rate by the demand for and supply of money is a stock theory. It emphasises that the rate of interest is a purely monetary phenomienon. It is a stock analysis because it takes the supply of money as given during the short run and determines the interest rate by liquidity preference or demand for money. On the other hand, the loanable funds theory is a flow theory that determines the rate by the demand for and supply of loanable funds. It involves the linking of the interest rate with dissaving, investment and boarding of funds on the demand side with saving, disboarding and bank money on the supply side. These are flow variables. In this chapter we shall discuss of these views about the nature and of interest and determination of its rate and shall attempt a synthesis among them.

7.2. Meaning of interest, Gross and Net interest

The very definition of interest depends on the interest theory which one accepts. Those who believe in the classical or real theory, regard interest as payment for the use of capital goods. They also believe that interest is necessary to induce people to save. The follower's of liquidity preference theory believe that interet is a price for surrounding liquidity preference. Still others who accept the loanable funds theory hold that interest is the price paid for the use of loanable funds. Just as the rent is a payment for the use of land, similarly, interest is a payment for the use of capital. In Marshall's words interest is "The price paid for the use of capital in an market. It is expressed as a percentage return on capital invested after allowing for risks of investment.

Gross interest and Net interest : The total amount which the debtor pays to the creditor is known as gross interest. All that the borrower pays to the lender is not pure or net interest, i.e., the price paid for the services of capital only. It is mixed up with so many other elements, of which pure or net interest is only one. Gross interest consists of the following elements.

a) **Pure interest :** This is a payment only for the services of capital as such or for the money borrowed.

b) **Insurance against Risk :** The lender is exposed to risk when he lends money. A certain amount must be paid to him to cover these risks. These risks are of two kinds : I) Personal risks due to the unreliable character of the borrower himself and ii) trade risks. Trade risks are due to the varying fortunes of the business in which the money is invested. The higher the risk, the higher will be the insurance money that the lender will expect more before lending.

c) **Wages of Management :** A part of the payment may be due to the wages of management. The lender has to keep amounts and to arrange for new loans for short period.

d) **Return for Inconvenience :** A lender has to suffer certain inconveniences for which he seeks compensation in the form of interest. The lender may not get back the money when he needs it and he may have to borrow from other on interest. Hence, he charges something extra over and the above pure or net interest.

7.3. Theories of interest :

A theory of interest should explain two things a) How interest is determined b) How interest arises. Some theories of interest explain only one of these aspects where as other explain both. For instance, Productivity theory, Abstinence or waiting theory, Agiotheory and Fisher's time preference theory are the classical theories which explain only why interest arises or why interest is paid. On the other hand the classical theory, the loanable funds theory and the liquidity preference theory explain both how interest arises as well as how the rate of interest is determined. All these theories of interest seek to explain the determination of the rate of interest through the equilibrium between the forces of demand and supply. In other words, all these three theories of interest are "demand and supply theories" with rate of interest as the mechanism which brings about equilibrium between demand and supply. The difference among of theories of interest lies in the answer to the question : demand for what and supply of what ?

According to the classical theory of interest, rate of interest is determined by demand for saving to invest and supply of savings. Loanable funds theory seeks to explain the determination of the rate interest through the equilibrium between the demand for loanable funds and supply of loanable funds. Keynesian theory of interest asserts that the rate of interest is determined by the demand for money to hold (i.e. liquidity preference) and the supply of money. We will now discuss these three thories one by one.

7.4. Classical theory of interest :

The classical theory explains that the rate of interest is determined by the equilibrium of savings and investment. The classical theory of interest also goes by the name of real theory as it seeks to

explain the determination of the rate of interest by real factors like productivity and thrift. According to this theory, the rate of interest is a payment for saving. The rate of interest is thus determined by the demand for savings to invest in capital goods and the supply of savings.

Demand for savings : The demand for capital goods comes from firms which desire to invest, that is, to purchase or to make new capital goods. Capital is demanded by the investors because it is productive. But productivity of capital is subject to the law of variable proportions. Additional units of capital are not as productive as the earlier units. Therefore, the marginal revenue productivity curve of the capital slopes downwards to right. Now under perfect compeition, it is profitable for a firm to purchase any factor upto the point at which the price of that factor equals its marginal revenue productvity. The price of savings required to purchase capital goods is obviously the rate of interest. Hence the entrepreneur will demand capital goods or will demand savings to purchase capital goods upto the point at which the expected net rate of return on capital goods equals to the rate of interest. Since the marginal revenue productivity of capital slopes downwards, it follows that, as the rate of interest falls more capital goods will be demanded and also more money will be required to purchase these capital goods. Thus it is clear that the marginal revenue productivity curve of capital shows the demand for capital and further the demand curve for capital slopes downwards towards to right. This is true of individual firms, of individual industries and of the community as a whole. Thus, we conclude that the demand for capital goods will increase as the rate of interest falls.

Supply of savings : According to the classical theory, the money which is to be used for purchasing capital goods is made available by those who save from their current income. By postponing consumption a part of their current income they release resources for productive purposes. Savings involve the element of waiting for the future enjoyment of savings. But people prefer the present enjoyment of goods and services to the future enjoyment of them. Therefore, if people are to be persuaded to save money and lend it to entreprenurr, They must be offered some interest as reward. More savings the people will do, the more consumption they will have to postpone the higher the rate of interest they will ask. Thus, to induce people to save more, higher rates of interest must be offered. Moreover higher rates of interest have also to be paid if savings have to come from those persons whose rates of time-preference are relatively more strongly weighed in favour of present satisfactions. The supply curve of capital will, therefore, slope upwards to the right.

Equilibrium between demand and Supply of savings

The rate of interest is determined by the interaction of the forces of demand for capital or investment and the supply of capital or savings. The rate of interest at which the demand for capital and the supply of savings are in equilibrium will be the rate determined in the market. How the rate of interest is determined by the interaction of supply and demand of savings is shown in figure 7.1.

Demand for Capital and Supply of Capital

SS is the supply curve of savings and II is the demand curve of savings as shown in figure 7.1. The demand for investment and supply of savings are in equilibrium au or rate of interest, where the curves intersect each other. Hence, Or is the equilibrium rate of interest, which will come to stay in the market. It is the equilibrium position, OM amount of money is lent, borrowed and invested. If any change in the demand for investment and supply of savings comes about, the curves will shift accordingly and therefore the equilibrium rate of interest will also change.
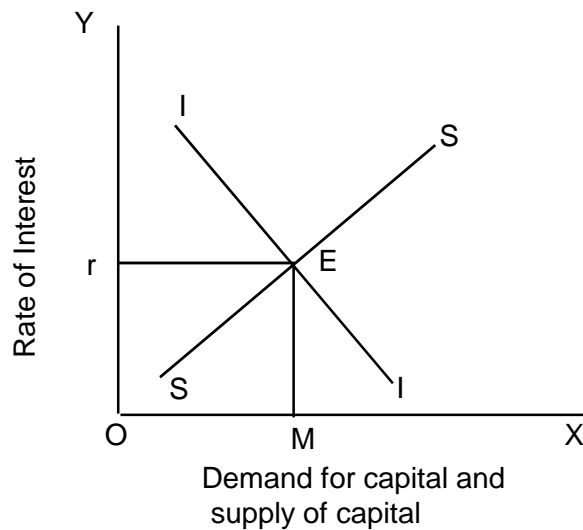
Y

Rate of Interest

I

S

r ———————— E

S

I

O   M   X

Demand for capital and
supply of capital

Figure : 7.1

7.4.1. Criticism of classical theory of interest

The classical theory of interest came in for serious criticism at the hands of keynes.

(i) Income not constant but variable : One of the serious defects of the classical theroy is that it assumes the level of income to be given, and regards interest as an equilibrating mechanism between demand and supply of capital. According to Keynes, income is a variable and not constant and the equality between saving and investment is brought about by changes in income and not by changes in the rate of interest.

ii) Unrealistic assumption of full employment : The classical Theory is based on the unrealistic assumption of full employment. In a full employed economy interest is a reward for saving, watiting or abstinence is necessary to induce people to save.

But according to Keynes, unemployment and not fullemployment is the rule and where resources are unemployed, interest is not essentially an inducement to savings.

iii) Indeterminate theory : Since savings depend upon the level of income, it is not possible to know the rate of interest unless the income level is known before hand. And the income level itself can not be known without already knowing the rate of interest. A lower rate of interest will increase investment, output employment income and savings. So for each income level a separate saving curve will have to be drawn. That is why Keynes criticised this theory as inderterminate.

i)Neglects the effect of investment on Income : The classical theory negletcs the effect of investment on the level of income. A rise in the rate of interest, for instance, will bring a decline in investment by making it less profitable. On the otherhand a low rate of interest encourages investment activity, increases output, employment, income and savings. But Keynes does not believe that investment depends on the rate of interest. It depends on the marginal efficiency of capital. Even if the rate of interest fall to zero. Keynes argues, investment will not take place if business expectations for profits are at a low level, as is the case in depression.

ii) Neglects other sources of Savings : The propounders of this theory include savings out of current income in the supply schedule of savings which makes it inadequate. But people might lend their past savings with the rise in the rate of interest and so the supply of capital will increase. Similarly bank credit is also an important source of capital. Thus classical theory is incomplete when it neglects the other sources of supply of capital.

7.5. Loanable funds theory of interest

The neo-classical, loanable funds theory of interest explains the determinations of interest interms of demand and supply of loanable funds or credit. According to this theory the rate of interest is the price of credit which is determined by the demand and supply of loanable funds. In otherwords Prof. Lerner "It is the price which equates the supply of credit or savings plus the net increase in the amount of money in a period, to the demand for credit or investment plus net "hoarding" in the period" There are several sources of both supply and demand of loanable funds which we discuss below.

Supply of Loanable funds : The supply of loanable funds is derived from four basic sources, namely a) savings, b) dishoarding c) bank credit d) Disinvestment

a) Savings : Savings by individuals or households constitute the most important source of loanable funds. Private individual and corporate savings are the main sources of savings. Personal savings depend upon the income level, Corporate savings are the undistributed profits of a firm which also depend on the current rate of interest to some extent. Given the level of income, savings vary at various rates of interest. More savings will be forth coming at a higher rates of interest and vice Versa.

b) Dishoarding : This is another source of loanable funds. Individuals may dishoard money from the hoarded stock of the previous period. Thus cash balances, lying idle in the previous period, become active balances in the present period and are available as loanable founds. At higher rates of interest, there is greater tendency to more dishoarding and at lower rates of interest there is a greater tendency to hold on to money.

c) Bank Credit : The banking system provides a third source of loanable funds. Banks, by creating credit money can advance loans to the business men. The new money created by the banks in a period adds greately to the supply of loanable funds. The supply curve of funds provided by banks is to some degree interest – elastic that means it varies with various rates of interest. Banks will lend more money at higher rates of interest than at lowerones, other things remaining the same.

d) Dis investment : Disinvestment is the opposite of investment and takes place due to structural changes or bad venture, the existing stock of machines and other equipment is allowed to wearout without being replaced or when the inventories are drawn below the level of the previous period. When it happens, a part of the revenue from the sale of the products, instead of going into capital replacement, adds to the supply of loanable funds.

By the lateral summation of the four curves, savings (s), dishoarding (dH) disinvestment (dI) and Bank credit (BM), we get the total supply curve of loanable funds (LS) which slopes upwards to the right showing that a greater amount of loanable funds will be available at higher rates of interest, and vice versa. So LS = S + DH + DI + BM.

Demand for loanable funds : The demand for loanable funds comes mainly from three fields (I) investment ii) consumption iii) hoarding

i)Investment : Demand for loanable funds for investment purposes by the business firms is the most important contituent of total demand for loanable funds. The price of the loanable funds required to purchase the capital goods is obviously the rate of interest. Such borrowings are interest elstic and depend mostly on the expected rate of profit as compared with the rate of interest. Businessman will demand loanable funds upto the point at which the expected rate of return on capital goods equals the net rate of interest. Thus the demand for loanable funds for investment purposes is interest elastic and slopes downwards to right.

ii) Consumption or dissaving : The second big demand for loanable funds comes from individuals or housholds who want to borrow for consumption purposes. When individuals want to make purchases in excess of their current incomes and cash reserves. Generally, the loan for consumption are demanded for buying durable goods like automobiles, A.C.,Refrigerator, Television sets etc. Lower rates of interest will encourage some increase in Consumer borrowing.

iii) Hoarding : Lasly, the demand for loanable funds may come from those who want to hoard money i.e. to satisfy the liquidity preference. Hoarding signifies the people's desire to hold their savings as idle cash balances. The demand curve for hoarding money is interest elastic and slopes down wards to right. At higher rates of interest people will hoard less money and at lower rates of interest they hoard more money.

The lateral summation of these three items i.e. (I, DS, H,) investment, dissaving and hoarding gives us the aggregate demand curve for loanable funds. LD = I + Ds + H. Where LD is the demand for loanable funds whichs is a sum of investment, dissaving and hoardings.

Equilibrium between demand for and supply of loanable funds :

The rate of interest will be determined by the equilibrium between the demand and supply of loanable funds as shown in the figure 7.2. In this figure LS is the total supply of loanable funds which has been derived by the lateral summation of the savings curve (s), dishoarding curve (dH), Bank credit curve (BM) and disinvestment curve (DI). Total demand curve for loanable funds is LD which has been found out by the lateral summation of the curve I, ds and H, that means investment, dissaving or consumption and hoarding.
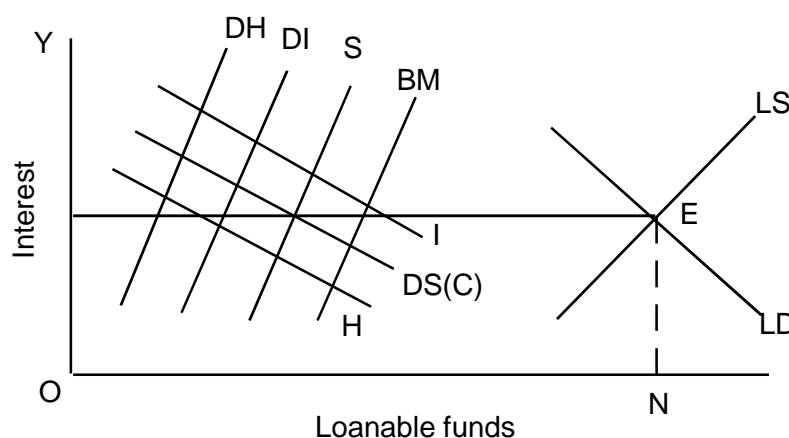

Figure : 7.2

The curve LD, the total demand for lonable funds and the curve LS, the total supply of loanable funds interesects each other at "Or' rate of interest. At this rate, the loanable funds lent or supplied are equal to the loanable funds borrowed or demanded. Hence "Or"is the equilibrium rate of interest.

7.5.1. Criticism of loanable funds theory

Most of the criticism made against classical theory are also valied in the case of loanable funds theory, because there is not much difference in classical and loanable funds theories. The following are the drawbacks in this theory.

1) **Equilibrium rate reflects unstable equilibrium :** The demand and supply schedules for loanable funds determine the equilibrium rate of interest "Or" which does not equate each component on the supply side with the corresoponding component on demand side. Thus the equilibrium rate 'or' reflects unstable equilibrium.

2) **Indeterminate theory :** Prof. Hansen asserts that the loanable funds theory of interest like the classical and the Keynesian theories is indenterminate. Unless the income level is already known.

3) **Cash balances not elastic :** The loanable funds theory states that the supply of loanable funds can be increased by releasing cash balances of savings and decreased by absorbing cash balances into savings. This implies that the cash balances are elastic. But this does not seem to be a currect view because the total cash balance available with the community are fixed and equal to the supply of money at any time.

4) **Savings not interest elastic :** The theory over emphasises the influence of the rate of interest on savings. It regards savings as interest elastic. Generally speaking, people save not to earn rate of interest but to satisfy precationary motive. So savings are not interest ealstic.

5) **Not correct to combine Real and Monetary factors :** The loanable funds theory has been criticised for combining monetary factors with real factors. It is not correct to combine real factors like saving and investment with monetary factors like bank credit and dishoarding without bringing changes in the level of income. This makes the theory un realistic.

Despite these weaknesses the loanble funds theory is better and more realistic than the classical theory. With the inclusion of real as well as monetary factors, the loanble funds theory becomes superior to the classical theory. It regards money as an active factor in determining the rate of interest.

7.6 Keynes' Liquidity preference theory of interest

In his book "The General theory of employment, interest and Money' Keynes gave a new view of interest. According to him "interest is the reward for parting with liquidity for a specified period : A man with a given income has to decide first how much of this income he is going to consume and how much to save. The former will depend on what Keynes calls, the propensity to consume. Given this propensity to consume, the individual will save a certain proportion of his given income. He now has

to make another decision. How should he hold his savings ? Either in the form of ready cash or in the form of bonds and securities ? This decision will depend upon what keynes calls his "liquiditily preference. Liquidity preference means the demand for money to hold cash. The rate of interest in the keynesian sense, is determined by the demand for and the supply of money. This theory is therefore characterised as the monetary theory of interest, as distinct from the real theory of the classicals.

Demand for money : Liquidity preference or the demand for money according to Keynes depends on three motives (I) the transactions motive ii) the precautionary motive and iii) the speculative motie.

Transactions Motive : the transactions motive relates to "the need of cash for the current transactions of personal and business exchanges. Individuals hold cash in order "to bridge the interval between the receipt of income and its expenditure:, This is called the "income motive" Most of the people receive their income by the week or the month while the expenditure goes on day by day. A certain amount of money, therefore is kept in hand to make current payments. This amount will depend upon the size of the individuals income the interval at which the income is received and the method of payments current in locality.

The businessmen and the entreprenuers also have to keep a proportion of their resources in ready cash in order to meet their current needs of various kinds. They need money all the time in order to pay for raw materials and transport, to pay wages and salaries and to meet all other current expenses in curred by any business. This keynes calls the "Business motive" for keeping money. It is clear that the amount of money held, under this business motive, will depend to a very large extent on the turn-over. The large the turn over the large, in general, will be the amount of money needed to cover current expenses.

Precationary motive : Precatuionary motive for holding money refers to the desire of the people to hold cash balances for unforeseen contigencies. People hold a certain amount of money to provide for the danger of unemployments sickness, accidents and other more uncertain perils. The amount of money held under this motive will depend in the nature of the individuals and on the conditions in which he lives. The demand for money for precationary motive depends upon the level of income and the business activity.

Keyenes holds that the transactions and precatuionary motives are relatively interest inelastic. The amount of money held for transactions and precautionary motives, keynes termed "active balances" and labelled M1. The demand for active balances can be referred to L1 and thus L1 = f (y).

Speculative Motive : The speculative motive relates to the desire to hold one's resources in liquid form in order to take advantage of market movements regarding the future changes in the ratio of interest (or bond prices).

Bond prices and the rate of interest are inversely related to each other. For instance, if a bond the value of Rs.100 carries 4% interest and the market rate of interest rises to 8% the value of this bond falls Rs.50 in the market. If the market rate of interest falls to 2% the value of the bond rises to Rs.200 in the market. Thus the individuals and businessman can gain by buying bonds worth Rs.100 each at the market prince of Rs.50 each when the rate of interest is high i.e.8% and sell them again when they are dearer (Rs. (200) each when the rate of interest falls (to 2%)

According to Keynes, it is expecations about changes in bond prices or in the current market rate of interest that determines the speculative demand for money. The speculative demand for money is a decreasing function of the rate of interest to the matter of expectation about a safe future rate of interest. The higher the rate of interest, the lower the speculative demand for money. Algebraically keynes expressed the speculative demand for money as M2 = L2 ® where L2 is the speculative demand for money and 'r' is the rate of interest. Geometrically, it is a smooth curve which slopes downwards from left to right, as shown in the figure 7.3.
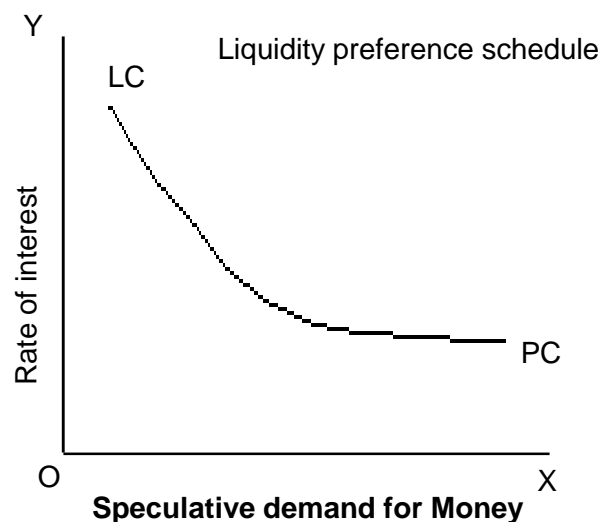

Figure : 7.3

Along OX axis is represented the speculative demand for money and along OY the rate of interest. The liquidity proference schedule LPC is a downward sloping curve towards the right signifying that the higher the rate of interest, the lower the demand for speculative motive and vice versa. The schedule becomes more elastic towards right end at a very low rates of interest.

Supply of Money : As for the supply of money, it is determined by the policies of the Government and of the Central Bank of the country. The total supply of money consists of coins plus notes plus bank deposits. If the total supply of money is represented by M, we may refer to that part of "M" held for transactions and precautionary motive as M1. Thus M = M1 + M2

Determination of the Rate of interest : According to Keynes, the demand for money i.e. liquidity preference and the supply of money, determine the rate of interest. It is infact, the liquidity preference for speculative motive which along with the supply of money determines the rate of interst. In figure 7.4 the vertical line MS represents the supply of money curve and LPC the total demand for many curve. Both intersect at E where the equilibrium rate of interest 'r' is established. If there is any deviation from this equilibrium position an adjustment will take place via the rate of interest, and the equilibrium level E is reestablished.
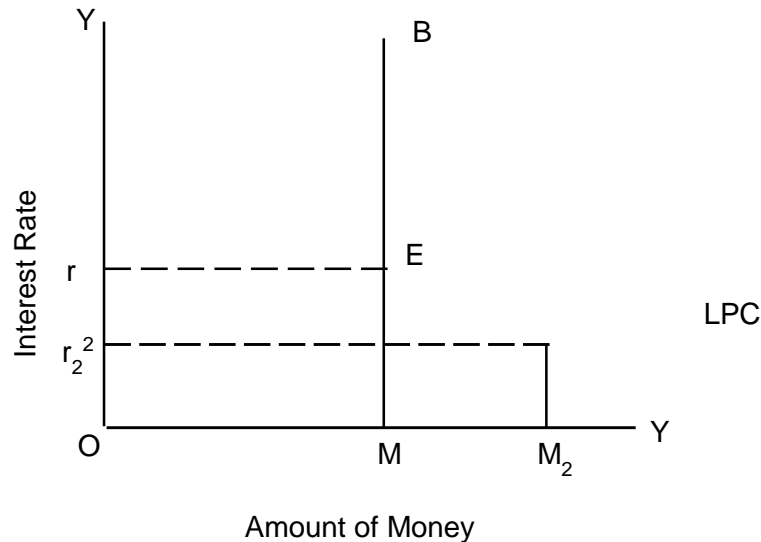
Figure : 7.4

This shows that the interest of rate changes when the demand for money or the supply of money changes. If the supply of money is increased by the monetary authorities, but the liquidity preference a curve LPC remains same, the rate of interest will falls. But any further increase in the supply of money has no effect on the rate of interest because the liquidity preference curve LPC is perfectly elastic at OR_2 rate of interest so when the supply of money increases to OM_2 the rate of interest remains stationary at OR_2. This is Keynes "Liquidity trap". If the demand for money increases and the liquidity curve shifts upwards given the supply of money, then the rate of interest will rise. Thus the theory explains that the rate of interest is determined at a point where the liquidity preference curve equals to the supply of money curve.

7.6.1. Criticism of liquidity preference theory

The Keynesian theory of interest has been severely criticised by Hansen, Robertson, Knight and others.

1. Keynes has not made it clear about what means by money. If cash alone or cash and bank deposits ?

2. He makes his theory purely a monetary explanation. Interest involves so many other things other than monetary aspects. He ignores the real forces, which determine the interest rate.

3. Hicks points out the fundamental error in Keyne's theory. Keynes has made the supply of money as independent variable, which is beyond the influence of interest rate. This is wrong according to Hicks. Actually keynes should have considered the demand for and supply of money or two blades of the scissors, whose intersection point indicates the equilibrium rate of interest. When the supply of money is made out of bounds for the

interest rate, according to Hicks, there is nothing special left in the Keynersian theory.

4. This theory also ignores the truth that the rate of interest is very high in times of boom and very low in times of depression.

5. Jacob Viner says that "without saving, there can be no liquidity to surrender" thus according to Viner, interest is the return for saving without liquidity aspect.

6. Keynes makes the rate of interest independent of the demand for investment funds. Actually, it is not so independent. The cash balances of the businessman are largely influenced by their demand for savings for capital investment. This demand for capital investment depends upon the marginal revenue productivity of capital. Therefore the rate of interest is not determined independently of the marginal productivity of capital or marginal efficiency capital as Keynes calls it.

7. The liquidity preference theory of interest does not explain the existence of different rates of interest prevailing in the market at the same time.

8. This theory is valid at best in short periods only and not suitable to all periods of time.

9. Keyne's theory of interest like the classical and loanable theory of interest, is indeterminate. According to keynes the rate of interest is determined by the speculative demand for money and the supply of money available for satisfying speculative demand. Given the total money supply, we cannot not know how much money will be available to satisfy the speculative demand for money is and we can't, know how much the transactions demand for unless we first know the level of income. Thus the Keynesian theory, like the classical theory is inadequate.

10. This theory ignores investment demand for money and savings function.

However, Keynesian theory of interest has great practical value. Interest has come to be controlled and managed by the monetary authorities. Interest as a monetary phenomenon has become the pivot of the entire banking system.

7.6.2. Summary

Interst is a reward for the use of capital. It is expressed as a percentage return on capital invested after allowing for risks of investment. A theory of interest should explain how interest is determined and how it arises. Classical theory, Loanable funds theory and the liquidity preference theory explain both how interest arises as well as how the rate of interest is determined. According to the classical theory of interest, rate of itnerest is determined by demand for savings to invest and supply of savings in Demand for capital comes from firms which desire to invest. The entrepreneur will demand capital goods up to the point at which the expected net rate of return on capital goods equal to the rate of interest. Since the marginal revenue productivity of the capital slopes downwards. Supply of capital comes from savigns. Savings involve the element of waiting and scarifise. So to encourage savings, People must be offered some interest as reward. Higher the rate of interest, higher will be the savings. Therefore the supply curve of savings slopes upwards. The rate of interest is determined by interaction of the forces of demand for capital and supply of capital. The classical theory of interest is criticied by J.M. Keynes. Keynes criticised this theory as in indeterminate because

without knowing the level of income, it is not possible to determine the rate of interest. This theory includes savings of current income in the supply schedule of savings and neglects other sources like bank credit, hoardings etc.

The neo-classical or lonable funds theory of interest explains the determination of interest in terms of demand and supply of loanable funds. According to this theory the rate of interest is determiend by the demand and supply of loanable funds. The supply of loanable funds is derived from four sources a) savings b) dishoarding credit d) disinvestment

LS = S + DH + DI + BM

The demand for loanble funds comes from three fields a) investment b) consumption c) hoarding

LD = I + ds + H

Most of the criticism made against classical theory are also valied in the case of loanbale funds theory, becuase there is no much difference in classical and loanable funds theories. Despite these weaknesses, loanable funds theory is better and more realistic than the classical theory because of the inclusion read as well as monetary factors.

According to Keynes, "Interest is a reward for partign with liquidity for a specifried period". Liquidity preference means the demand for money to hold cash. The rate of interest is determined by the emand for and supply of money. This theory is therefore charactersied as the monetary theory of interest as distinct from. The real theory of the calssicals. According to Keynes liquidity preference depends on three motives. i) Transactions motive ii) precautionary motive iii) Speculative motive. Keynes holds that the transactions and precautionary motives are interest inealstic. Speculative demand for money depends upon the rate of interest. It is a decreasing function of the rate of interest. The supply of money is determined by the polices of the government and the central Bank of the country. It is infact the liquidity prfereence for speculative motive which along with the supply of money determines the rate of interest.

The keynesian theory of interest has severealy criticised by Hansen, Robertson and knight. He makes his theory purely a monetary explanation, ignores the real factors. According to Hicks, there is nothing special left in Keynesian theory. This is unrealistic because rate of interest is very high in times of boom and low in times of depression. This theory is valied at best in short periods and not suitable in all periods of time. However, Keynesian theory of interest has great practical value.

EXERCISE

1. Discuss the role of real forces of thrift and productivity in determination of the rate of interest or

2. In what respects loanable funds theory of interest an improvement on the classical theory.

3. Critically discuss the Keynesian theory of liquidity preference as an explanation of the determination of the interst rate.

4. What is meant by speculative demand for money ? What role does it plays in the determination of rate of interest.

LESSON 8
MODERN THEORY OF INTEREST OR
IS AND LM CURVES

Contents

8.0. Aims and Objectives : The lesson deals with the modern theory of interest which integrates money, interest and income in a general equilibrium model of product and money markets in the Hicks – Hansen diagramatic framework, known as the IS-LM model. In order to analyse the general equilibrium of product and Money markets, it is instructive to study the derivation of IS and LM functions and their slopes for the understanding of the effectiveness of monetary and fiscal polices.

8.1. Introduction : In the previous chapter we have analysed the classical, loanable funds and Keynesian liquidity preference theories of interest. We have seen that no single theory of interest is adequate and determinate. An adequate theory to be determinate must take into consideration both the real and monetary factors that influence the interest rate. Hicks has utilised the Keynesian tool in a method of presentation which shows that productivity, thrift, liquidity preference and supply of money are all necessary elements in a comprehensive and determinate interest theory. According to Hanen, "An equilibrium condition is reached when the desired volume of cash balances equal to the quantity of Money, when the marginal efficiency of capital is equal to the rate of interest and finally, when the volume of investment is equal to the normal or desired volume of savings. And these factors are inter-related. Thus in the modern theory of interest, savings, investment, liquidity

preference and the quantity of money are integrated at various levels of of income for a synthesis of the loanable funds theory a worth the liquidity preference theory. The four variables of two formulations have been combined to construct two new curves, the IS curve representing flow variables of the loanable funds formulation and the LM curve representing the stock variables of the liquidity preference formulation. The equilibrium between IS and LM curves provides a determinate solution.

The product market is in equilibrium when desired saving and Investment are equal. Saving is a direct function of the level of income. $S = f(\gamma)$ ..... (1)

Investment is a decreasing function of interstrate

$I = f(r)$ ..... (2)

From (1) and (2) we have $S = I$

The IS schedule reflects the equilibrium of the product market. It shows the combinations of interest rate and income levels where saving – investment equality takes place so that the product market of the economy is in equilibrium. It is also known as "real sector equilibrium".

8.3. Deriving the IS curve

The derivation of the IS curve is shown in figure 8.1. In panal (A) of this figure, the saving curve 'S' in relation to income is drawn in a fixed position on the Keynesian assumption that the rate of interest has little effect on saving. The saving curve shows that saving increases as income increases, i.e. saving is the increasing function of the income. Investment on the other hand, depends on the rate of interest and the level of income. Given a level of interest rate, the level of investment rises
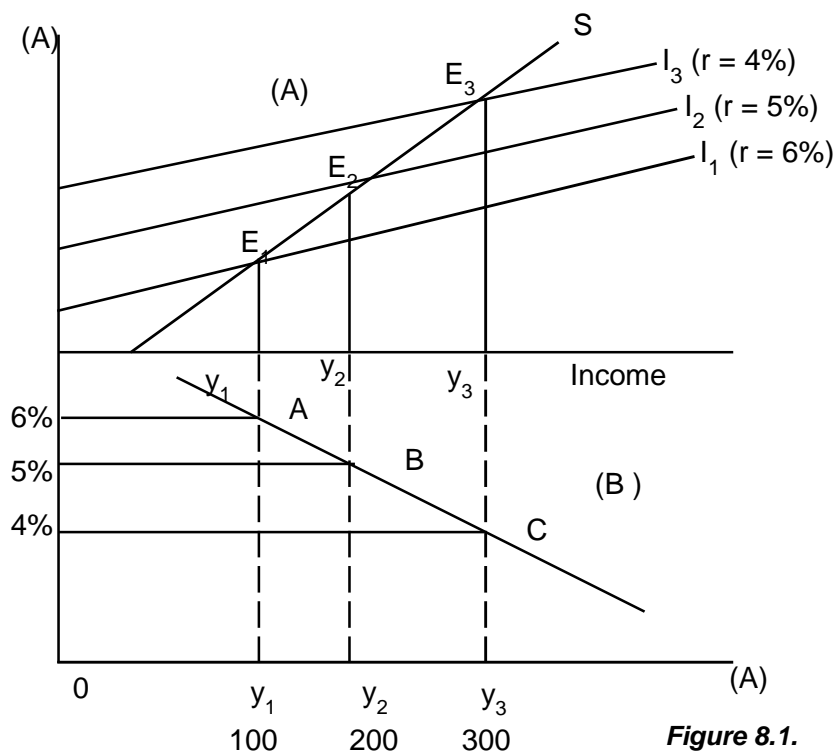

Figure 8.1.

with the level of income. At a 5 percent rate rate of interest, the investment curve I_2. If the rate of interest is reduced to 4 percent, the investment curve will shift upward to I_3. The rate of investment will have to be raised to reduced the marginal efficiency of capital to equality with the lower rate of interest. Thus the investment curve I_3 shows more investment at every level of income. Similarly when the rate of interest is raised to 6 percent, the investment curve will shift downward to I_1. The reduction in the rate of interest is essential to raise the marginal efficiency of capital to equality with the higher rate of interest.

In Panel (B) we drive the IS curve by making the level of income at various interest rates. The rate of interest is represented on the vertical axis and the level of income on horizontal axis. which equals to Rs.100 crores we draw a dashed line downward to intersect the extended line from 6 percent at point A. At interest rate 5 percent, the 'S' curve intersects the I_2 curve at E_2 so as to determine OY_2 income (Rs.200 crores). In the lower figure, the point B corresponds to 5 percent interest rate and Rs.200 crores, income level. Similarly, the point 'C' corresponds to the equilibrium of S and I3 at 4 percent interest rate. By connecting these points. A, B and C with a line, we get the IS curve. The IS curve slopes downwards from left to right because as the interest rate falls, investment increases and so does income. In otherwords, there is a negative relationship between income and interest rate in the real sector of the economy.

8.4. The slope of the IS curve

Figure 8.1. (B) shows that the IS curve slopes downward from left to right. This negative slope reflects the increase in investment and income as the rate of interest falls. If the rate of interest is 6%, the S curve intersects the I_1, curve at E, which determines OY_1 income. From this income level which equl to IS curve may be flat or steep depending on the sensitiveness of investment to changes in the rate of interest and also on the size of the multiplies. If investment is very sensitive to rate of interest, the IS curve is very flat. On the other hand, if investment is not very sensitive to the rate of interest the IS curve is relatively steep. The shape of the IS curve also depends upon the size of the multiplier. If the size of the multiplier is large, income is more sensitive to changes in the interest rate and the IS curve is flatter.

The IS function shifts to the right with a reduction in saving. Reduction in saving may be the result of one or more factors leading to increase in consumption. Consumers may like to buy a new product even by reducing saving. The community's wealth may increase due to government's policy and the wealth holders do not like to save the same amount than before. Consumers may start buying more in anticipation of shortages or price rise thereby reducing saving.

The IS function also shifts to the right by an autonomour increase in investment. The increase in investment may result from expetations of higher profits in the future, or from innovation, or from expectations concerning increase in the future demand for the product, or from a rise in optimism in general. Moreover, government's expenditure and tax polices, have the effect of shifting the IS function. In all these cases, the IS function will shift to the right, equal to the decrease in the supply of saving times the multiplier or the increase in the investment times the multiplier. With the increase in the autonomous invested (or) reduction in saving), the IS curve shiftes from IS_1 to IS_2 and the new

equilibrium is established at point E_2 which indicater a higher level of income y_2 at a higher interest rate, as shown in figure 8.2.
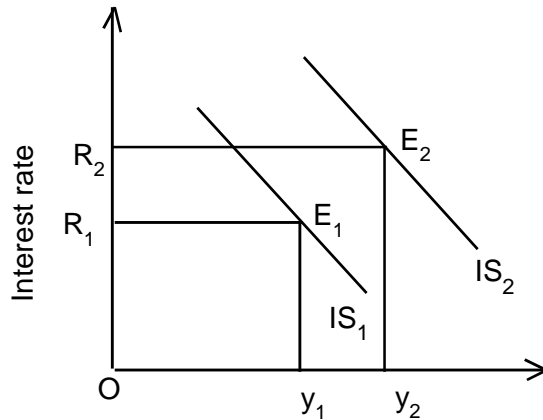

Figure 8.2

In the opposite case when investment falls or saving increase, the IS function will shift to the left and the equilibrium will be established at a lower level of income and interest rate. This situation can be explained by assuming IS_2 as the original curve.

8.5. The Money market equilibrium

The Money market is in equilibrium when the demand and supply of money are equal. Denoting L for money demand and 'M' for money supply, in equilibrium L = M. The demand for money L = LT + LS where LT is the transactions demand for money which is a direct function of income, Lt = f (Y). LS is the speculative demand for money which is decreasing function of the rate of interest LS = f (r). Thus in money market equilibrium M = Lt + Ls i.e. M = Lt (y) + Ls (r)

8.6. Deriving LM Curve

The LM curve shows all combinations of interest rate and levels of income at which the demand for and supply of money are equal. In other words, the LM schedule shows the combination of interest rates and levels of income where the demand for money (L) and the supply of money (M) are equal such that the money market is in equilibrium.

The LM curve is derived from the Keynesian formulation of liquidity preference schedules and the scheudle of supply of money. A family of liquidity preference curves $L_1 y_1$, $L_2 y_2$ and $L_3 y_3$ is drawn at income levels of Rs.100 crores, Rs.200 crores and Rs.300 crores respectively in figure 8.3 (A). These curves together with the perfectively inelastic money supply curve MQ give us the LM curve. The LM curve consists of a series of points, each point representing an interest income level at which the demand for money (L) equals to the supply of money (M). If the income level is Y_1 (Rs.100 crores) the demand for money ($L_1 Y_1$) equals the money supply (QM) at interest rate R_1. At y_2 (Rs.200 crores) income level, the $L_2 y_2$ and the QM curves equal at R_2 interest rate. Similarly at $L_3 y_2$ (Rs.300 crores) income level, the $L_3 y_3$ and QM curves equal at R_3 interest rate.
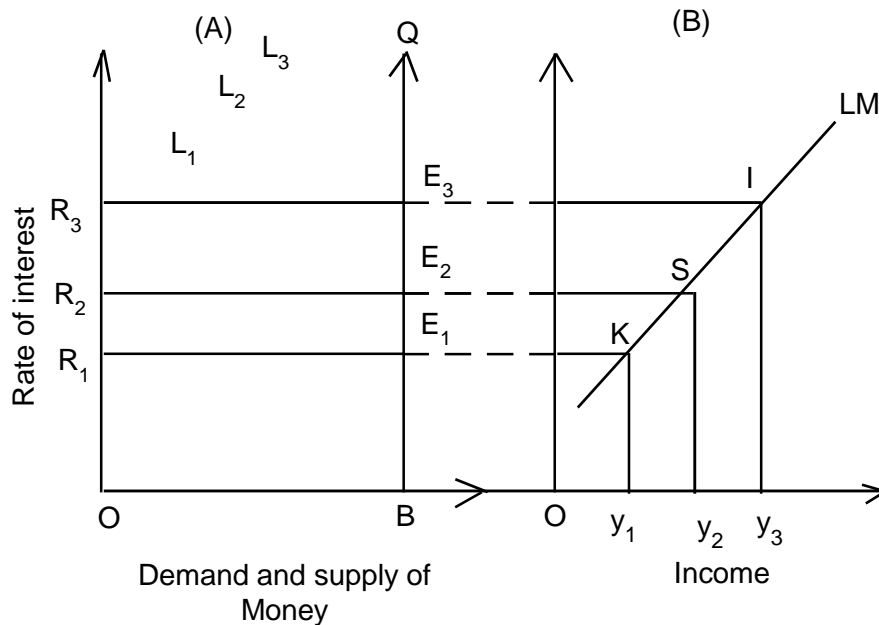
Figure 8.3

The supply of money, the liquidity preference, the level of income and the rate of interest provide data for the LM curve shown in figure 8.3 (B). Suppose the level of income is Y_1 (Rs.100 crores) as marked out on the income axis in figure 8.3 (B). The income of Rs.100 crores generates a demand for money represented by the liquidity preference curve $L_1 y_1$. From the point E_1, where the $L_1 Y_1$ curve intersects the MQ curve, extend a dashed line horizontally to the right so as to meet the line drawn upward from y_1 and K in figure 8.3 (B). Points S and T can also be determined in similar manner. By connecting there points K, S and T. We get 'LM' curve. This relates different income levels to various interest rates.

8.7. The slope of the LM curve

The LM curve slopes upward from left to right because given the supply of money, an increase in the level of income increases the demand for money which leads to higher rates of interest. This is turn, reduces the demand for money and thus keeps the demand for money equals to the supply of money. The smaller the responsiveness of the demand for money to the rate of interest, income and the larger the responsiveness of the demand for money to the the flatter will be the LM curve. This means that a given change in income has a smaller effect on the intere4st rate. The LM curve is steeper, if a given change in income has a larger effect on the rate of interest. In this situation, the responsiveness of the demand for money to income is larger and is smaller for the interest rate. If the demand for money is insenitive to the interest rate, the LM curve is vertical that is perfectly inelastic. In this case a large change in the interest rate is accompanied by almost no change in the level of income to maintain money market equilibrium. If the demand for money is very insensitive to the rate of interest the LM curve is horizontal. In other words a small change in interest rate is

accompanied by a large change in the level of income to maintain money market equilibrium. This portion of LM curve at the extreme left is equivalent to the Keynesiani liquidity trap, already explained in the keyne's theory of interest.

The LM function shifts to the right with the increase in the money supply given the demand for money, or due to the decrease in the demand for money given the supply of money. If the central bank follows an expansionary monetary policy, it will buy securities in the open market. As a result, money supply with the public increases for both transactions and speculative purposes. This shifts the LM curve to the right. An increase in the money supply or an increase in the demand for money will sh9ift the LM function to the left such that a new equilibrium is established at a higher interest rate and lower income level.

8.8 General equilibrium of product and money market

So far we have analysed the condition that have to be satisfied for the general equilibrium of the product and money markets in terms of IS and LM functions. Now we study how these markets are brought into simultaneous equilibrium. It is only when the equilibrium pairs of interest rate and income of IS curve equal the equilibrium pairs of interest rate and income of the LM curve that the general equilibrium is established. In other words, when there is a single pair of interest rate and income level in the product market and money market that the two markets are in equilibrium.

Such an equilibrium position is shown in figure 8.4 where the IS and LM curves intersect each other at point E, relating 'Y' level of income to 'R' interest rate. This pair of income and interest rate leads to simultaneous equilibrium in the real or goods market (Saving and investment) and the money (demand and supply of money) market. This general equilibrium position persists at a point of time, given the price level. If there is any deviation from this equilibrium position, certain forces will act and react in such a manner that the equilibrium will be restored.
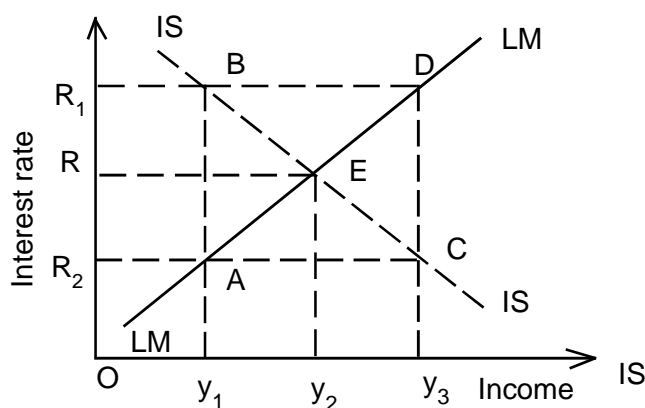

Figure 8.4.

Consider point 'A' on the LM curve where the money market is in equilibrium at y_1, income level R_2 interest rate. But the product market is not in equilibrium. In the product market, the interest rate R_2 is lower. The product market can be in equilibrium at Y_1 income level only at a higher interest rate

R corresponding to Point B on the IS curve. consequently at point A, there is excess of nvestment over saving since point 'A; lies to the left IS curve. The excess of 'I' over 'S; indicates excess demand for goods which raises the level of income. As the level of income rise the need for transactions purposes increases. In order to have more money for transactions purposes, people sell bonds. This tends to raise the interest rate. This moves the LM, equilibrium from point A upward to point 'E' where a combination of higher interest rate R and higher income level 'y' exists. On the other hand, rising interest rate reduces investment and an increasing income raises saving. This helps to bring about the equality of I and S at point 'E' where the general equilibrium is reestablished by the equality of IS and LM.

Now consider point 'C' on the IS curve in the figure 8.4. Where the product market is in equilibrium at R_2 interest interest rate and Y_2 income level. The money market is not in equilibrium. It can be in equilibrium at y_2 income level only at a higher interest rate R_1 corresponding to point D on the LM curve. At point C, the demand for money (L) is greater than the supply of money (M) because point 'C' refelects lower rate of interest R_2 than is required for the equality of L and M. Thus there is exess demand for money at R_2 interest rate, the excess demand for money leads people to sell bonds but there is less demand for bonds which tends to raise the interest rate. When the rate of interest begins to rise product market is thrown into disequilibrium because investment falls. Falling investment leads to falling income which in turn reduces saving. This process ultimately brings the equilibrium of the product market when I = S at point E. On the otherhand, falling income reduces the transactions demand for money and ultimately brings about the equality of LM at point E where the equilibrium is re-established by the equality IS and LM curves, at 'R' interest rate and y income level.

Changes in General equilibrium : The general equilibrium combination of y income level and 'R' rate of interest may change either due to a shift in the IS function or the LM function or by both functions shifting simultaneously. The IS function may shift due to changes in the saving function or the investment function. The shifts in the LM function may be caused by changes in the money supply or liquidity preference.

Hicks – Hansen integration of the classical and the keynesian theories of interest shows clearly that the government is in a position to influence the level of economic activites or the level of national income by monetary and fiscal measurer. We find therefore that Hicks-Hansen theory of interest has succeeded in synthesising the monetary and fiscal policies. Hence both monetary and fiscal measurer can play a useful role in regulating the rate of economic activity in the country.

Thus a determinate theory of interest is based on (1) investment demand function (2) Saving function (3) the liquidity preference function (4) the quantity of money. Hence, according to modern economists, both monetary and real factors play their part in the determination of rate of interest. This theory is a more general, inclusive and realistic approach to the determination of rate of interest.

8.9. Limitations :

But the Hicks – Hansen synthesis of the theories of interest has its own limitation.

1. It is based on the assumption that the rate of interest is flexible i.e. free to vary and is not rigidly fixed by Central Bank. If the rate of interest were not flexible then the appropriate adjustment will not take place.

2. This synthesis of interest theories is also based upon the assumptioni that investment is interest elastic i.e. investment varies with the rate of interest. If the investment were not interest elastic, then also the Hicks-Hansen synthesis breaks down because the necessary adjustment will not take place.

3. Donpatinkin and Milton Freidman have criticised the Hicks-Hansen synthesis as being too artificial and oversymplifie. They think that the division of the economy into two sectors, monetary and real is artificial and unrealistic. On the other hand, they are of the openion that the monetary and real factors are interwoven and act and react on each other.

4. Patinkin also has pointed out that Hicks-Hansen synthesis ignores the possibilities of changes in the price level of commodities. He thinks that the various price level of commodities. He thinks that the various economic variable such as money supply, propensity to consume, investment and liquidity preference not only influence the rate of interest and the level of income but also the Prices of comodities and services. He therefore, suggests a more integrated and general equilibrium approach which involves the simultaneous determination of not only the rate of interest and the level of income but also prices of commodites and services.

5. According to Prof.Rowan, the Hicks-Hansen thoery is a closed model which does not take into consideration the effect of international trade. This restricts its usefulness for the study of policy problems.

6. Finally, it is a static theory that explain the short run behaviour of the economy. Thus it fails to explain how the economy behaves in the long run.

But these weakeness, do not undermine the utility of the IS and LM technique in explaining the determination of interest rate in an economy.

8.10. Summary

The modern theory of interest savings, investment, liqality preference and the quantity of money are integrated at various levels of income for a synthesis of the loanable funds theory with the liquidity preference theory. The four variables of two formulations have been combined to construct two new curves, the IS curve representing flow variables of transble funds formulation and the LM curve representing the stock variables of the liquidity preference formulation. The equilibrium between IS and LM curves provides a determinate solution. The product market is in equilibrium when desired savings are equal to investment. The IS schedule reflects the equilbrium of the product market. It is also known as real sector equilibrium. The money market is inequlibrium when the demand for money and supply of money are equal. 'L'denotes the demand for money, 'M' denotes the supply of money. Thus money market is in equilibrium when L = M. The LM curve shows all combinations of interest rate and levels of income at which demand for and supply of money are equal. When the equilbrium pairs of interest rate and income of IS curve equals the equilibrium pairs of interest rate and income of the LM curve, the general equilibrium is established. This general equilibrium position persists at a point of time given the price level. If there is any deviation from this equilibrium position, certains forces will act and react in a such a manner that the equlibrium will be restored. Hicks - Hansen integration of the classical and and the Keynesian theories of interest shows clearly that the government is ina position to influence the level of economic activites or the level of national income by monetary

and fiscal policies. This theory is a more general inclusive and realistic approach to the determination of rate of interest.

8.11. Reference

G. Ackley : Macro Economic theory

E. Shapiro : Macro Economic analysis

M.C. Vaish : Macro economic Theory

EXERCISE

1. Use IS-LM frame work to explain the joint determination of the interest rate and the level of income.

2. Derive and IS-LM curve. Give their properties.

3. Explain the modern theory of interest?

4. How does the modern theory reconcile the real and monetary factors? Show how Hicks – Hansen theory of interest is an improvement over earlier theories of interest.

5. Write about the most acceptable theory of interest.

Lesson – 9

COMMERCIAL BANKING

9.0 Aims and Objectives :

The main objective of this lesson is to make students to understand origin, meaning, definitions, functions of commercial banks. There is a need to study role of commercial banks in a developing economy, banking systems, balance sheet of commercial banks, credit creation of commercial banks

Content

9.1 Origin and Growth of Banking:

The origin of banking can be traceable in the early times of human history. The banking owes its origin to the activities of goldsmiths in England. In the seventeenth century, goldsmiths in England possessed strongest safe vaults where valuable goods such as gold, silver, diamonds could be kept safely. The rich people in England used to keep their valuables with goldsmiths and obtained receipts from them for their deposits of gold and silver. At a later stage people recognised these deposits as a medium of exchange.

Another important development took place when goldsmiths realised that the gold deposits with them were idle for long and decided that they could issue more deposit receipts than the actual deposits of gold and silver to meet the financial needs of some persons and started charging some interest on them. This is the way of beginning of creation of deposits or credit by modern banks. Thus goldsmith became a banker, he started performing the two major functions of a bank i.e., receiving deposits and advancing loans.

As public enterprise, banking made its first appearance in Italy in 1157 when the Bank of Venice was found.

9.2 Meaning and definition:

A bank is an institution which deals with money and credit. It accepts deposits from public, makes the funds available to those who need them, and helps in remittance of money from one place to another. As modern bank performs a variety of functions, it is difficult to define. It is because of this reason that different economists give different definitions.

According to Crowther, a bank 'collects money from those who have it to spare or who are saving it out of their incomes and it lends this money to those who require it.

In the words of Kinley, "A bank is an establishment which makes to individuals such advances of money as may be required and safely made and to which individuals entrust money as may be required by them for age".

Prof. R.S. Sayers defines the terms bank and banking distantly. He defines a bank as "an institution whose debts (bank deposits) are widely accepted in settlement of other people's debts to each other". Again, according to Sayers. "ordinary banking business consists of changing cash for bank deposits and bank deposits for cash, transferring bank deposits from one person or corporation to another; giving bank deposits in exchange for bills of exchange, government bonds, the secured promises of businessmen to repay and so forth".

According to Indian Companies Act, 1949, banking means "the accepting for the purpose of lending or investment of deposit of money from the public, repayable on demand or otherwise, and withdrawable by cheque, draft or otherwise.

In short, in modern times, the term bank refers to an institution having the following features.

1.   It deals with money; it accepts deposits and advances loans.
2.   It also deals with credit; it has the ability to expand its liabilities as a multiple of its reserve.
3.   It is a unique financial institution that creates demand deposits which serves as a medium of exchange and, as a result, the banks manage payment system of the country.

9.3 Functions of Commercial Banks :

Commercial banks were organised to meet the ever increasing credit requirements of industry and trade. Commercial banks played a significant role in enlarging the productive potential of the economic system by mobilising the available resources from the people and channeling these into productive activities. The functions and services performed by the modern commercial banks can be broadly classified as (1) Banking functions and (2) subsidiary functions. Banking functions are primary functions and miscellaneous services as rendered by banks are known as secondary or subsidiary functions.

9.3.1: Primary Functions of Commercial Banks:

(1)   Accepting Deposits: The first important function is that they mobilise the savings of public by accepting their deposits. People consider it more National to deposit their savings in a bank because by doing so they on the one hand, earn interest, and on the other avoid the danger of theft. To attract savings from all sorts of individuals, the banks maintain different types of accounts.

(a) Fixed Deposit Account: Money in these accounts is deposited for a fixed period of time (say one, two or five years) and can not be withdrawn before the expiry of the period. The rate of interest on this account is higher than that of the other types of deposits. The longer the period, the higher will be the role of interest. Fixed deposits are also called time deposits or time liabilities.

(b) Current Deposit Account: These accounts are generally maintained by the traders and businessmen who have to make a number of payments every day. Money from these accounts can be withdrawn in as many times and as much amount as desired by the depositors. No interest is paid on these accounts and the depositors have to pay certain incidental charges to the bank for the services rendered by it. Current deposits are also called demand deposits or demand liabilities.

(c) Saving deposit Account: This is to encourage and mobilise small savings of the public. Certain restrictions are imposed on the depositors regarding the number of withdrawals and the amount to be withdrawn in a given period. Cheque facility is provided to the depositors. Rate of interest paid on these deposits is low as compared to that on fixed deposits.

(d) Recurring Deposit Account: The purpose of these accounts is to encourage regular savings by public, particularly by the fixed income group. Generally, money in these accounts is deposited in monthly installments for a fixed period and is repaid to the depositors along with interest on maturity. The rate of interest on these deposits is nearly same as on fixed deposits.

2. Advancing of loans: The other important function of a bank is advancing of loans to the public. After keeping certain cash reserves, the banks lend their deposits to the needy borrowers. Before advancing loans, the banks satisfy themselves about the credit worthiness of the borrowers. Various types of loans granted by banks are :

a) **Money at call:** Such loans are very short period loans and can be called back by the banks at a very short notice of say one day to fourteen days. These loans are generally made to other banks or financial institutions.

b) **Cash Credit:** It is a type of loan which is given to the borrower against his current assets such as shares, stocks, bonds etc. These are risky but these are given only to trusted parties to enable them to freely use the cash in their business. The bank opens the account in the name of the borrowers and allows him to withdraw borrowed money from time to time upto a certain limit as determined by the value of his current assets. Interest is charged only on the amount actually withdrawn from the account.

c) **Over-Draft:** Sometimes the bank allows its customer to over-draw his current account upto an agreed limit against some negotiable security. Interest is charged from the customers on the overdrawn amount.

d) **Discounting of bills of exchange:** The bank may also lend money by discounting bills of exchange. This is the most popular method of lending by commercial banks as the loans given against bills of exchange are self-liquidating. Discounting a bill of exchange amounts to the advancing of a loan against a promise to pay in future. After making some marginal deductions (in the form of commission) the bank pays the value of the bill to the holder. When the bill of exchange matures, the bank gets its payment from the party which had accepted the bill. The central bank is always prepared to re-discount the bills of commercial banks.

e) **Term Loans:** The banks have also started advancing medium term and long term loans. The maturity period for these loans is more than one year. The amount sanctioned is either paid or credited to the account of the borrower. The interest is charged on the entire amount of the loan and the loan is repaid either on maturity or in installments.

3. Credit Creation: A unique function of the bank is to create credit. In fact, credit creation is the natural outcome of the process of advancing loan as adopted by the banks. When a bank advances a loan to its customer, it does not lend cash but opens an account in the borrower's name and credits the amount of loan to this account. Thus, whenever a bank grants a loan, it creates an equal amount of bank deposits. creation of such deposits is called credit creation which results in a net increase in the money stock of the economy. Banks have the ability to create credit many times more than their deposits and this ability of multiple credit creation depends upon the cash reserve ratio of the banks.

4.   **Promoting cheque system:** Banks also render a very useful medium of exchange in the form of cheques. Through a cheque, the depositor directs the bankers to make payment to the payee. Cheque is the most developed credit instrument in the money market. In the modern business transactions, cheques have become much more convenient method of settling debts than the use of cash.

9.3.2   Secondary Functions:

Agency Functions: Banks also perform certain agency functions for and on behalf of their customers.

1)   **Remittance of funds:** Banks help their customers in transferring funds from one place to another through cheques, drafts etc.

2)   **Collection and Payment of credit instruments:** Banks collect and pay various credit instruments like cheques, bills of exchange, promissory notes etc.

3)   **Execution of standing orders:** Banks execute the standing instructions of their customers for making various periodic payments. They pay subscriptions, rents, insurance premia etc. on behalf of their customers.

4)   **Purchasing and Sale of Securities:**   Banks undertake purchase and sale of various securities like shares, stocks, bonds, debentures etc. on behalf of their customers. Banks neither give any advice to their customers regarding these investments nor levy any change on them for their service, but simply perform the function of a broker.

5)   **Collection of Dividends on shares:**   Banks collect dividends, interest on shares and debentures of their customers.

6)   **Income tax consultancy:** Banks may also employ income-tax experts to prepare income tax-returns for their customers and to help them to get refund of income tax.

7)   **Acting as trustee and executor:**   Banks preserve the wills of their customers and executive them after their death.

8)   **Acting as representative and correspondent:** Sometimes the banks act as representative and correspondents of their customers. They   get passport, travellers tickets, book vehicles, plots for their customers and receive letter on their behalf.

9.3.2 (b): General Utility Functions: In addition to agency services, the modern banks provide many general utility services as given below:

1)   **Locker Facility:** Banks provide locker facility to their customers. The Customers can keep their valuables and important documents in these lockers for safe custody.

2) **Travellers Cheques:** Banks issue travellers cheques to help their customers to travel without the fear of theft or loss of money with this facility, the customers need not take the risk of carrying cash with them during their travels.

3) **Letter of credit:** Letters of credit are issued by the banks to their customers certifying their credit worthness. Letters of credit are very useful in foreign trade.

4) **Collection of Statistics:** Banks collect statistics giving important information relating to industry, trade and commerce, money and banking. They also publish journals and bulletins containing research articles on economic and financial matters.

5) **Underwriting Securities:** Banks underwrite the securities issued by the government, public or private bodies. Because of its full faith in banks, the public will not hesitate in buying securities carrying the signatures of a bank.

6) **Gift cheques:** Some banks issue cheques of various denominations to be used on auspicious occasions.

7) **Acting as a referee:** Banks may be referred for seeking information regarding the financial position, business reputation and respectability of their customers.

8) **Foreign Exchange Business:** Banks also deal in the business of foreign currencies. They may finance foreign trade by discounting foreign bills of exchange.

ROLE OF COMMERCIAL BANKS IN A DEVELOPING ECONOMY

A well developed banking system is a necessary pre-condition for economic development in a modern economy. Banks not only provide financial resources for growth of industrialisation but also influence the direction in which these resources are to be utilised. In order to help achieve rapid economic growth, commercial banks have to perform many growth oriented functions in addition to their traditional functions. Structural as well as functional reforms in the banking system are needed to enable the banks perform developmental role in underdeveloped countries.

Banks and Economic Development: In a modern economy, banks are to be considered not merely as dealers in money but also the leaders in development. They are not only the store houses of the country's wealth but also are the reservoirs of resources necessary for economic development.

In the present day developing economies largely depend upon the growth of sound banking system for their economic progress. Commercial banks undertake the responsibility of promoting economic growth of the country in the following way.

1. **Capital Formation:** The most important determinant of economic development is capital formation which was promoted by banks. Capital Formation has three stages a) Generation of saving b) Mobilisation of saving and c) Canalisation of saving in productive uses.

Generation of savings: Commercial banks promote savings by providing a wide range of deposits and incentives such as interest on deposits, cheap remittance and safe custody etc. to savers. These advantages induce savers to save more and encourage the habit of thrift.

Mobilisation of savings: Commercial banks stimulate savings by offering a number of incentives to the savers. And also by expanding their branches in different areas and giving various incentives, they succeed in mobilising the savings generated in the economy.

Allocating the savings to productive users: Banks not only mobilise resources but also make the savings so mobilised available to those who have the opportunities of productive investment.

2. **Monetisation of Economy:** Banks not only mobilise the savings from the public, but also themselves create deposits or credit which serve as money. The new deposits are created by banks when they lend money to investors. Banks perform monetisation in two ways.

   1) They monetise or buy debts and in exchange create deposits.
   2) By spreading their branches in rural and backward areas, banks convert the non-monetised sectors into monetised sectors.

3. **Encouragement to Entrepreneurs:** In underdeveloped countries, entrepreneurs generally hesitate to invest in new ventures and undertake innovations due to lack of finance. Facilities of bank loans enable the entrepreneurs to invest in innovative activities which increase productive capacity of the economy.

4. **Influencing economic activity:** Banks influence the economic activity directly through (a) rate of interest and (b) the availability of credit.

a) **Variations of interest rates:** A reduction in the interest rates makes the investment more profitable and stimulate economic activity. An increase in interest rate discourages investment and as a result economic activity. Hence, to overcome a deflationary situation, banks can follow cheap money policy with low interest rates and to control inflation they adopt dear money policy with high interest rates.

b) **Availability of credit:** Credit creation is one of the important functions of commercial banks. Through like credit creation activity, the banks increase the supply of purchasing power and hence the aggregate demand. This increases investment, production and, trade in the economy.

5) **Monetary Policy:** Appropriate monetary policy is necessary for economic development. For effective implementation of the monetary policy needs a well developed banking system. Control and regulation of credit by the monetary authority is not possible without the active co-operation of the banking system in country.

6) **Promotion of Trade and Industry:** In industrially advanced countries, the effective banking system leads to expansion of trade and industrialisation in the last two hundred years. The utilisation of bank cheque, the bank draft and the bill of exchange has revolutionised the internal trade and international trade which leads to the development of industrialisation.

7) **Regional Development:** Through branch expansion, banks can also pay an important role in achieving balanced development in the economy. Surplus capital can be transferred by the banks, from developed regions to less-developed regions. This leads to the promotion of economic development in underdeveloped areas of the economy.

8) **Development of Agriculture and other neglected areas:** Underdeveloped economies are primarily agricultural economies and economic development in these economies required the development of agriculture and small scale industries in rural areas. But banks have been paying more attention on trade and commerce and the agriculture and industry are almost neglected. Thus to encourage these neglected areas, necessary structural and functional reforms should be made in banking system. Banks must diversify its activities not only to provide credit to trade, but also to extend medium and long-term credit to agriculture and industry.

BANKING SYSTEMS

Different countries adopt different banking systems. They are (1) branch banking system (2) unit banking (3) group banking and (4) chain banking.

9.5.1 Branch Banking System:

In this banking system each commercial bank is a very large institution having a large number of branches all over the country. Hence it is a decentralised type of banking. This system was initially developed in England. In England most of the banking business in the hands of five big banks known as "Big Five" i.e., The Mid Lands, the Lioyds, the Barclays, The west minister and the National provincial. Later on, it also become popular in other countries like Canada, Australia, India etc.

Advantages of Branch Banking:

1) **Economies of large scale operations:** Under this system, with a number of branches, the banks maintain huge financial resources and enjoy economies of large scale operations.

a) Highly trained and experienced staff is appointed which increase efficiency.
b) Division of labour is introduced which increases economy in the working of bank.
c) Right persons are appointed at right place and specialisation increases.
d) Obtaining public confidence by large financial resources and wider geographical coverage.

2) **Diversification of risk:** Another advantage of the branch banking is the lesser risk and greater capacity to meet risks. (1) As there is geographical spreading and spreading of risks, there is less possibility of failure of the bank (2) The loss incurred by one branch may be set off by profit earned by another branch.

3) Economy in cash reserves: Under this system, there is possibility of maintaining each office with lower cash reserves. In time of need of reserves, one branch can depend upon another branch.

4) Cheap Remittance Facilities: As the bank branches are spread over the whole country, it is easier and cheaper to transfer remittance from one place to another. Inter-branch indebtedness is more easily adjusted than inter- bank indebtedness.

5) Uniform Interest Rates: Under branch banking system, mobility of capital increases which brings equality in interest rates. Transferring idle funds from one branch to another branch where the funds are inadequate, results in uniform rate of interest prevailing in the whole area.

6) Diversification of deposits and assets:

Deposits are received in the areas where savings are huge and loans are extended where funds are scarce and interest rates are high. Because of wide geographical area, there is greater diversification of deposits and assets in branch banking system.

7) Proper use of capital: Branch banking system enhances the profitability of banking operations. Idle funds in one branch, can be transferred to a branch where the funds are inadequate, which can make most profitable use of the funds.

8) Improved Facilities to customers: The customers get better and greater facilities under branch banking system. Because of small number of customers per branch and the increased efficiency achieved through large scale operations.

9) Effective Control: Under the branch banking system, the central bank can have a more efficient control over the banks because it has to deal only with a few big banks and not with each individual branch. This ensures better implementation of monetary policy.

Dis-advantages of Branch- Banking:

1) Regional Imbalance: The deposits of small branches may be transferred to big industrial centres, and this may create regional imbalance in the country.

2) Problem of Management : Branch banking develops into a monopolistic type of organisation. It results in concentration of economic power in the hands of a few. The branch manager has to seek permission from the head office on every matter which leads to unnecessary delay and red-tapism in the banking business.

3) Lack of Initiative: Due to lack of initiative branch manager cannot take independent decisions and have to get the permission from the head office.

4) Monopolistic Tendencies: Branch Banking gives scope to monopolistic tendencies in banking system. A few big banks dominate and control the entire banking system which leads to concentration of resources in a few hands.

5) Linkage Effect: Under this system, the losses and weakness of some branches have their effect on other branches of the bank.

6) **Inefficient Branches:** In this system, the weak and unprofitable branches continue their operation under the protection of strong and profitable branches.

7) **Failure of policy:** If the policy making at the head-office fails, all the branches will be effected adversely.

8) **Ineffective co-ordination:** Under this system it is impossible to bring the effective co-ordination between the branches.

9) **Establishment Expenditure:** Due to wide geographical coverage of branches, there may be wastage of resources as huge amounts are to be spent on establishment.

9.5.2 **Unit Banking system:** The United States of America is the originator of unit banking system. An individual bank carrying on its banking operations from a single office is called unit banking system. According to Shapiro, Solumon and Whilt "An independent unit bank is a corporation that operates one office and that is not related to other banks through either ownership or control". Different unit banks in U.S.A. are linked with each other and with other financial centres in the country through correspondent banks.

Advantages :

1) **Local Development:** Unit banking is localised banking. The funds of the locality are utilised for the local development and are not transferred to other areas. The unit bank has the specialised knowledge of the local problems and serve the requirements of local people.

2) **Promotes regional balance:** In unit banking system, there is no transfer of funds from weak units to strong units. This tends are reduce the regional imbalance.

3) **Easy Management:** The management and supervision of unit banking is much easier and effective when compared to branch banking system.

4) **No Monopolistic Tendencies:** Under this system, banks are generally small in size. Hence, there is no scope for monopolistic tendencies under unit banking systems.

5) **No Diseconomies :** Unit banking system is free from diseconomies and disharmonies of large scale operations.

6) **No inefficient branches:** Under unit banking system, protection is not provided to weak and inefficient branches. Such banks are automatically closed.

7) **Efficiency:** In unit banking system there is only one office and the management is efficient and technically trained. Hence, there is no scope for irregularities, fraud and waste.

Dis-advantages of unit Banking:

1) **No distribution of risk:** Under unit banking system, the bank operations are highly localised. Therefore, there is less possibility of distribution and diversification of risk in various areas and industries.

2) **Inability to face crisis:** Limited resources of the unit banks also restrict their ability to face financial crisis.

3) **No banking development in backward areas:** Because of their limited resources, unit banks cannot afford to open uneconomic banking business in smaller towns and rural areas. Hence these areas remain unbanked.

4) **Lack of Specialisation:** As the unit banks are small in size, they are not able to introduce and get the advantage of division of labour and specialisation. Due to limited earnings, unit banks cannot procure the services of highly efficient staff.

Costly remittance of funds: A unit bank has no branches at other places. So it has to approach the corespondent banks for transferring the funds which is very expensive.

Disparity in Interest rates: Under the unit banking system, cheap and easy movement of funds does not exist, interest rates tend to vary at different places.

Local pressure: Local pressure and interferences generally disrupt their normal functioning.

Undesirable competition : Unit banks are independently run by different managements resulting in undesirable competition among different unit banks.

9.5.3 Group Banking System:

Under this system, two or more banks are brought under the control of holding company maintaining their respective entities which coordinates their activities with regard to the employment of staff and funds and their exchange transactions. The most important merit of this system is that each bank retains its individual entity, but its business is managed by the holding company. This type of banking was popular in U.S.A. Before great depression there were about 300 groups controlling more than 200 banks in U.S.A.

Under this banking system, the presence of a strong controlling authority, the standardised system of accounts and expert advice is provided to the banks. However, failure of one member bank has an adverse effect on others. It also results speculation and corruption due to common purchasing agency.

9.5.4. Chain Banking: It is a system in which two or more banks are brought under common control by a device other than the holding company. In this system, there is full use of financial resources through integrated management services, economy in operation costs, diversification of risk and centralised control. This system of banking also suffers from certain short-comings and

disadvantages. There is lack of flexibility and efficient supervision. There is scope for too much of speculative activities.

9.6   The Balance Sheet of Commercial Banks:

The balance sheet of a bank is a statement of its liabilities and assets at a particular point of time. A liability implies a claim against the bank by other individuals and institutions. An asset is either wealth owned by the bank or a legal claim of the bank against others.

The business of a bank is reflected in the balance sheet. The financial position of a bank, its solvency and liquidity can be judged with the help of a balance sheet. It indicates the ways in which the bank has raised funds and invested them in various types of assets. Following is the typical structure of a bank balance sheet.

BALANCE SHEET OF A COMMERCIAL BANK

Liabilities	**Assets**
1. Share capital	1. Cash in Hand
a) Authorised capital	a. Cash with Central Bank
b) Subscribed capital	b. Cash with other Banks
c) Called-up capital	
d) Paid-up capital	
2. Reserve Fund	2. Money at-call and short notice
3. Deposits	3. Bills discounted including Treasury bills
a) Time Deposits	
b) Demand Deposits	
c) Saving Deposits	
4. Borrowings from other bank	4. Investments
5. Acceptance and Endorsements on Account of Customers	5. Loans and Advances to Customers
6. Miscellaneous	6. Liabilities of customers for acceptance and endorsements etc.
	7. Bank Premises

9.6.1   Liabilities of a Commercial Bank

1.   Share Capital: Share capital refers to the capital contributed by the share-holders of the bank. Share capital is the claim of the share – holders against the commercial bank

(a)   The authorised capital is the maximum amount mentioned in the Memorandum of Association upto which it can issue shares.

(b)   The issued capital is the part of the authorised capital which is offered to the public for subscription.

(c)   Subscribed capital is that which is actually subscribed by the members of the public.

(d)   Called-up capital represents the amount actually required to be paid by the shareholders.

(e)   Paid-up capital is the actual amount of received from them.

2.   **Reserve Fund:** It is the portion of accumulated profits of the previous years to meet the unforeseen losses in subsequent years. This is also a claim of the share holders against commercial banks. It is liability of the bank.

3.   **Deposits :** Deposits represents a major share of commercial bank's funds. Deposits are given by individuals, business firms and government bodies. The deposits serve primarily to meet the payments. They are mainly of three types.

(a) **Fixed or time deposits :** These are kept with banks for fixed periods varying from one month to long periods. Banks pay interest on these deposits. They can be withdrawn only on the expiry of stipulated period of time.

(b) **Current or Demand Deposits :** These deposits are withdrawable by cheques. There need not be any previous notice for their withdrawal. Banks do not allow any interest on them. Usually they are made by traders and producers.

(c) **Savings Deposits:** They are intended to encourage the habit of savings. These are helpful to small business and professional people. Banks accepts small amounts and pays interest on them withdrawals are allowed on a small scales.

4)   **Borrowings from other Banks:** When a commercial bank borrows from other commercial banks on temporary basis, these borrowings are also a claim against the borrowing bank and represent its liabilities.

5)   **Acceptance and endorsements:** This item appears on both the sides of balance sheet, as a contra item. It represent as a liability, a bank incurs by accepting or endorsing bills of exchange of customers. The bank lends its name to its customers since they would reimburse it by the time the payment falls due.

9.6.2 **Assets side of a commercial Bank:** The assets side of a balance sheet indicates the manner in which the funds entrusted to the bank are employed. While distributing its resources among various assets, the bank will have to bear three things is mind, namely, liquidity, profitability and security.

In the balance sheet of a bank, assets appear in the order of liquidity.

1.   **The Cash:** The most liquid of all bank's assets is cash. A bank is required to keep a certain percentage of its funds in the form of cash to meet its cash obligations. On any day, withdrawals by a group of customers would be offset by new deposits by another group of

customers. But there may be some disparity between the two accounts. Therefore a banker has to keep a sufficient cash reserves. This cash kept in the vaults, cash deposits with the central bank and other banks is the most liquid assets of commercial banks.

(2) **Money at call and short notice:** Money at call or short notice includes loans recoverable at a very short notice. In London, it comprises loans advanced to discount houses and bill brokers against collateral securities like first class bills. These loans are payable at seven days notice. Such call money is highly liquid and it also earns a nominal interest.

(3) **Bills Discounted:** A commercial bank invests in commercial bills and also discounts the treasury bills. Therefore bills discounted are the short dated investments of the commercial banks. These assets are self –liquidating. They become cash as soon as they mature. These assets are also earning assets. As a commercial bank's assets, bills of exchange are idle because they fulfil the objectives of liquidity and profitability. A commercial bank can get these bills discounted from the central bank. Therefore, bills are considered better than mortgaged property which is neither shiftable nor can be easily sold.

(4) **Investments and Advances:** The earning assets of a bank including bills discounted are classified into loans and investments. "The principal distinction between these two forms is that a loan is usually made to a customer of the bank and is arranged through direct negotiations between the borrower and the lending bank. Investment consists of evidence of interest bearing debt that the borrower sells in the open market". When a bank gives a loan by mortgaging an asset it is an advance. But when a bank purchases securities in the stock exchange it is an investment. However the distinction between investments and advances in not always so clear, loans involve a definite period of maturity and can not be recalled before the due date, loans are more profitable than investments.

(5) **Other assets:** Apart from there are building and other liquid property which constitute the assets of the bank. For ascertaining up-to-date value of these assets, periodic depreciation is allowed.

Banks are peculiar type of financial institutions. Banks acquire debts of others say bills, bonds and debentures on which they receive interest and in turn, they issue their own debt to the depositors in the form of passbooks. The significance of the balance sheet lies in the fact that it throws light on the financial soundness and economic position of a particular commercial bank.

9.7 CREDIT CREATION

9.7.1 Introduction:

Banks are not merely purveyors of money, they are also manufacturers of money. Bank deposits form a large part of the total supply of money in circulation. This is the power which made them economically significant. Inflationary pressures may develop, if banks create money more than their requirements. And Banks may arrest economic prosperity, if they contract the

supply of money. Thus, banks can be a potential source of instability by their power to create money.

When a commercial bank acquires an assets, it creates a deposit in favour of the person or institution from whom the asset is acquired. When a bank grants loan or makes an advance or provides an overdraft facility, it creates demand deposit. Thus, in the course of its banking business, a commercial bank issues claims against itself and thereby creates credit. In short, credit creation is nothing but creation of bank deposits. Prof. Sayers has rightly described commercial banks as manufacturers of money.

A relevant question to be asked here is : Does a bank lend the money entrusted to it by its customers or is it in a position to lend more than it has got as deposits of cash? Waterlea and Edwincannan expressed the view that a bank can not lend more than its deposits because the initiative lies with the depositors and not with the bank. But we can not agree with this view. Bank Deposits arise in two ways. When customers give legal tender money, it offers a book debt called deposit. Such deposits are known as Primary Deposits, Deposits also arise when customers are granted accommodation in the form of loan. These deposits are known as 'derived deposits' and they add to the supply of money. Derived deposits arise as follows. (a) when a commercial bank advances a loan, the borrower is not paid in cash. The bank simply opens a current account in his name and allows the borrower to operate the account by drawing cheques on the bank upto the amount of the loan. The bank pays the borrower in terms of deposit created in the borrowers' name. The borrower can make payments to others by cheques to discharge his debts and this is how additional money comes into existence and these payments make additional supply of money. Thus a bank is capable of lending more than it has got by way of cash deposits. When a loan is granted to a customer, a deposit arises. It is said that "every loan creates a deposit".

(b)   Another way in which a bank deposit may arise is when the bank discounts a bill of exchange. The bank credits the customers' account with the amount of the bill deducting interest for the period the bill is yet to run. Thus in exchange of a bill, the bank gives a deposit and additional money comes into existence.

(c)   If a banks buys a security such as government bond, it credits the sellers account with the amount and the deposits of the bank increase by the amount. The seller may be a customer of the purchasing bank or some other bank. Hence, the purchase of securities by any bank increase the deposits either of the same bank or some other bank.

The economic significance of these deposits is that they can be used as purchasing power. The creation of deposits adds to the total supply of money. These deposits are money while the assets which are exchanged against these deposits are not money.

9.7.2   **Assumptions of credit creation:**

1)   Cash Reserves: The amount of cash in the country: The larger the cash, the larger the amount of credit that can be created. But the amount the bank may have depends upon the policies prescribed by the central bank.

2) **No currency drain:** It arises from the habit of the people regarding the use of cash i.e., currency. If people use cash for their transactions, it does not effect the reserves of the banks, and as a result its power to create credit remains unchanged.

3) **No excess reserves:** The banks must maintain cash reserve ratio to ensure the safety of bank and to retain the degree of liquidity. If the reserve ratio fall below a certain limit, the power of bank to create credit comes to an end. Therefore, the bank will not let the cash reserve ratio fall below a certain limit.

4) **No time deposit drain:** The other important limitations is the amount of money which the public choose to hold as deposits in banks. If the deposits from public increases, the banks are in position to create more credit and vice versa.

5) **Without acquiring asset:** The bank cannot create credit without acquiring some asset. An asset in a form of wealth. Growther observes "the bank does no create money out of thin air, if transmutes other forms of wealth into money.

9.7.3 Credit creation –The single Bank:

The ability of a bank to lend is the requirement of reserves. If some one deposits Rs.1000 in bank-A. The bank would need to keep only Rs. 100 as reserves. Therefore the bank has excess reserves upto Rs. 900 and can lend 900 x 100 = Rs. 9000. This is possible only if the bank has a monopoly of the banking service. The cheques which the borrowers issue to their payers are deposited only with the bank. If there are other banks competing with this bank and if it expands its credit to such an extent, it would get into trouble. For example a person who took loan, spends it to purchase goods from some other persons, who deposits the cheques into other bank (B). Then the Bank (A) will lose its reserves to Bank (B). This is called adverse clearing drain.

A single bank can not lend more than the amount of its excess reserves. The banking system as a whole is capable of creating deposits many times more than the initial increase in their cash reserves. This is possible only because there is no 'adverse clearing drain' in case of banking system. The credit expansion by the banking system as a whole is known as multiple credit creation.

9.7.4   Credit creation the Banking System:

Suppose that an individual or a firm deposits Rs. 1,00,000 in cash with a bank A. The cash of Rs. 1,00,000, the bank receives will become its asset and at the same time individuals deposits of Rs. 1,00,000 will be its liability. Now the balance sheet of Bank A is as follows.

Bank –A
Balance Sheet

Liability	Rs.	Assets	Rs.
Deposits	1,00,000	Cash	1,00,000

Let us assume that cash reserve ratio is 20%. Now the bank does not require all the Rs. 1,00,000 in cash. Bank A requires only 20% of it, i.e., Rs. 20000/- cash against its deposits of Rs. 1,00,000/-. The bank may lend or invest the remaining amount of Rs. 80,000. If the bank does not lend or invest it will suffer a loss, as it has to pay interest to the depositors with no profit from cash it possesses. So, the bank lends Rs. 80000 to the business firms or individuals whom it founds credit worthy. Now the balance sheet of bank A was as follows.

Bank A
Balance sheet

Liability	Rs.	Assets	Rs.
Deposits	1,00,000	Cash	1,00,000
New Deposits (created)	80,000	Loan	80,000
	1,80,000		**1,80,000**

Bank does not give the cash to individual or firm immediately. But the bank deposits the amount in the name of the borrower and allows him to draw cheques against the loan amount. Now the persons or borrower withdraws this deposits through cheques and makes payments to this debtors and these debtors deposit the amount in some other bank, say Bank B, then the Bank A will have to surrender Rs. 80,000 to Bank B. Now the balance sheet of Bank A look like as follows.

BANK – A
BALANCE SHEET

Liability	Rs.	Assets	Rs.
Deposits	1,00,000	Cash	20,000
		Loan	80,000
	1,00,000		**1,00,000**

Cheques worth of Rs. 80000/- against Bank A are deposited in Bank B. For Bank –B these becomes the asset of bank B and becomes liability in the form of deposits in the name of persons those who have deposited the cheques. Now these transactions appears in the Balance Sheet of Bank-B as follows.

BANK B
BALANCE SHEET

Liability	Rs.	Assets	Rs.
Deposits	80,000	Cash	80,000

Now against the deposits of Rs. 80,000, bank B requires to keep 20% i.e., Rs. 16,000 as cash and can lend remaining amount of Rs. 64,000. Now the Balance Sheet of Bank-B will look like.

BANK – B
BALANCE SHEET

Liability	Rs.	Assets	Rs.
Deposits	80,000	Cash	80,000
New Deposits created	64,000	Loan	64,000
	1,44,000		**1,44,000**

Now a firm got loan from Bank B and completely withdraws Rs. 64,000 through cheques. As a result, Bank B will transfer Rs. 64,000 to another bank, say C, in which the cheques drawn are deposited by the firm. Now the balance sheet of Bank B will be as follows.

Bank – B
BALANCE SHEET

Liability	Rs.	Assets	Rs.
Deposits	80,000	Cash	16,000
New Deposits (created)		Loan	64,000
	80,000		**80,000**

Now the bank C will get Rs. 64,000 and it will also require to keep 20% of it as cash i.e., Rs. 12,800 and the remaining amount will be invested or lent out by the bank.

From the above, it is clear that the deposits of Rs. 1,00,000 led to the creation of deposits of Rs. 80,000 by Bank A, Rs. 64,000 by Bank B and Rs. 51,200 by Bank C and so on. This process of expansion of deposits will not stop here, it will go on till the total deposits of Rs. 5,00,00 in all the banks including original deposits of Rs. 1,00,000. But it is clear that the new deposits created at each stage goes on declining.

This is how the deposits have been created by banking system out of the initial deposits of Rs. 1,00,000. Total Deposits = Rs. 1,00,000 + Rs. 80,000 + Rs. 64,000 + Rs. 51,200 + …….. = Rs. 5,00,000

Deposits created by banking system = 5,00,000 – 1,00,000 = Rs. 4,00,000

9.7.4   Consolidated Balance Sheet of all banks – Multiple expansion of deposits.

	Assets Reserves	Loans	Deposits
Bank A	20,000	80,000	1,00,000
Bank B	16,000	64,000	80,000
Bank C	12,800	51,200	64,000
Other Banks	51,200	2,04,800	2,56,000
	1,00,000	**4,00,000**	**5,00,000**

9.7.5   It is clear that the total expansion of deposits by banking system depends upon the cash reserve ratio. The smaller the cash reserve ratio. The larger the expansion of credit. In the above case 20% of cash reserves, expansion of deposits from the deposits of Rs. 1,00,000 is Rs. 5,00,000 the total deposits expanded was 5 times to the original cash deposits which is known as credit multiplier or deposit multiplier (i.e., 5). It should be noted that the magnitude of deposit multiplier depends on the cash reserve ratio.

9.7.6   Deposit Multiplier :

Deposit multiplier $d_n = \dfrac{1}{r}$

r stands for cash reserve ratio

when cash reserve ratio is 20% i.e., 0.20 or $\dfrac{1}{5}$ the deposit multiplier is

$$d_m = \dfrac{1}{1/5} = 5$$

If the cash reserve ratio is 25% i.e., 0.25 or $\dfrac{1}{4}$, then the deposit multiplier is

$$d_m = \dfrac{1}{1/4} = 4$$

hence, greater cash reserve ratio will lead to the contraction of credit created by bank and vice versa.

9.8 SUMMARY :

The Banking owes its origin to the activities of goldsmith in England. A Bank is an institution which deals with money and credit. Prof. R.S. Sayers defines the term bank "as an institution whose debts are widely accepted in settlement of other people's debt to each other".

The functions and services performed by the modern commercial Banks can be broadly classified as (1) Banking functions and (2) subsidiary functions. Banking functions are primary functions, and miscellaneous services, as rendered by banks are known as secondary or subsidiary

functions. Primary functions are classified under different heads. They are (1) accepting Deposits (2) advancing loans (3) credit creations. Among secondary functions agency functions remittance of funds, purchasing and sale of securities and collection of dividends on shares are important functions.

A well developed banking system is a necessary pre conditions for economic development in a modern economy. In the present days, developing economies largely depends upon the growth of sound banking system for their economic progress. Commercial Banks undertake the responsibility of the promoting economic growth of the country through capital formation. Monetisation of economy, encouragement to entrepreneurs, credit creation, promotion of trade & industry etc.

The business of bank is reflected in the balance sheet that it appears generally at the end of each financial year. The financial position of a Bank, its solvency and liquidity can be adjusted with the help of a balance sheet. The typical structure of a bank balance sheet is presented in this lesson. The items comes under liabilities and assets are discussed in detail.

Credit creation is nothing but creation of bank deposits. Prof. Sayers has rightly described commercial banks as manufactures of money. Assumptions of credit creation are also discussed in this lesson.

9.9 MODEL QUESTIONS :

1. Explain the meaning, definitions and functions of commercial banks.
2. Describe the role of commercial banks in Economic Development.
3. What is the process of credit creation of commercial banks
                              OR
   Explain the process of credit creation through the Balance Sheet approach.
4. Distinguish between Branch Banking and Unit Banking which system is suitable to India.

9.10 REFERENCES:

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LESSON 10

CENTRAL BANK

10.0 Aims and Objectives :

To know about the definition of a central bank, functions a central bank such as :
(i) Bank of Issue (ii) Banker, Agent and advisor to the government (iii) Banker's Bank (iv) Custodian of Cash Reserves of Commercial Banks (v) Bank of Clearance (vi) Custodian of Nation's reserves of International Currency, Lender of the last resort, Controller of credit and Miscellaneous Functions.

STRUCTURE

10.1   Introduction

10.2   Definition of Central Bank

10.3   Functions of Central Bank

      10.3.1 Bank of Issue

      10.3.2 Banker, Agent and Advisor to Government

      10.3.3 Bankers Bank

      10.3.4 Custodian of Cash Reserve Bank Ratio

      10.3.5 Bank of Clearance

      10.3.6 Custodian of Nation's Reserve of International Currency

      10.3.7 Controller of Credit

      10.3.8 Miscellaneous

10.1   INTRODUCTION :

Every country possesses a Central Bank. A Central Bank is so-called because it occupies a central position in the monetary and banking system of a country. It is the apex financial authority of the country. It has to maintain the stability of the monetary unit and secure orderly development of banking.

A Central Bank is basically different from a Commercial Bank. It does not engage in ordinary banking business. It does not accept deposits nor does it lend to the public. It is not a profit seeking organisation.

The first Central Bank established was the Sweedish Riks Bank in 1688. The Bank of England the Central Bank of England was started in 1694. The Bank of France was established

in 1800. Later the European countries began to establish Central Bank by the end of the 19th Century, almost all the European countries possessed a Central Bank. In 1914 the Federal Reserve System was established in USA. The Reserve Bank of India, the Central bank of our country came into existence on April, 1935.

At first, the Central banks were established as private share holder banks. After the great depression most of the countries have nationalised their central banks.

10.2   DEFINITION OF A CENTRAL BANK :

The definition of a central bank depends upon its functions. Different economists have defined a central bank differently. According to Paul Samuelson, "every Central Bank has one function. It operates to control economy's supply of money and credit". Vera Smith has defined "a Central Bank is a banking system in which a single bank has either a complete or a residuary monopoly of note issue". Howtrey regards "Lender of the last resort is the most essential function of a central bank". Show believes that "the one true, but at the same time all suffering of a central bank is the control of credit". To Quote Dudley Johnson, "A central bank is an institution charged with the responsibility of regulating the supply and cost of money in the interest of the general public". The most important function is to control the monetary and financial system of an economy with a view to promoting economic welfare of the people.

10.3   FUNCTIONS OF A CENTRAL BANK :

10.3.1 Bank of Issue :

A central bank is responsible for maintaining the stability of the monetary unit. It controls currency and credit according to the requirements of trade and business. To discharge this function in a satisfactory way, it is given the monopoly of note issue. Currency is the chief means of payment and there exist a direct relationship between currency and credit because currency forms the basis for creation of credit. Central banks have to control credit and so they are granted the monopoly of note issue.

The privilege of note issue is the monopoly of the central banks. Other banks are prohibited from issuing notes. The currency laws of every country lays down certain rules and regulations for issue of notes by the central bank. The main aim is to secure uniformity, which is automatically realised when the note issue function is exercised by a single institution. Another aim is to have a currency system which is elastic. And lastly it is essential to have a sound basis for note-issue.

The main reasons for granting the right of note-issue to the central bank are as follows :

(1) It brings about uniformity in note circulation and ensures better regulation of the currency.
(2) It facilies effective state supervision over currency supply which prevents irregulations and malpractices in the issue of the notes.
(3) It gives distinctive prestige to currency notes which is not possible if notes are issued by many banks.

(4) The monopoly of note-issue gives the central bank control over other banks in credit expansion since expansion of credit leads to increased demand for currency.

(5) It prevents the danger of over-issue.

No maximum limit is placed on the amount of note issue. Central Bank is given a relatively free hand to regulate the volume of currency according to the needs of the money market. The minimum reserves are prescribed to create a sense of confidence in the minds of the people. The relevant legal provisions are the minimum reserve system in one form or another has been adopted for issuing currency. By an ordinance made in 1957, in India, the minimum reserve requirements have been reduced to Rs. 200 crores of which the gold should be at least Rs. 115 crores. The rest may consists of foreign securities. Thus, the central bank is guided by the consideration of uniformity, elasticity and security.

10.3.2 Banker, Agent and Advisor to the Government :

The central bank renders all the services to the central government and the state government which a commercial bank performs for its customers. It accepts their deposits, makes collections, disbursements and remittance on their behalf. In every country, the government not only receives taxes but borrows enormous money from the money market. The financial operations of the government may cause disturbance over the money market unless they are properly regulated and controlled. The central banks minimises the effects of these operations by advising the government. This is the principle reason why the financial operations of the government are in the hands of the central banks.

The bank provides short term as well as long-term financial requirements of the government. And it can also make extraordinary advances in times of war or other national emergencies of grave nature.

The bank provides the short term loans by "ways and means advance". If the government needs large funds it is met through the sale of Treasury Bills by central bank on behalf of government. And the bank provides long-term financial assistance to government by sale of securities.

The central bank acts as the financial agent of the government. In some countries, central bank has a separate department known as public debt department which is connected with the administration of public debt. It so regulates the sale and purchase of Treasury Bills and securities as to avoid disturbances in the supply of and demand for funds in the private sector.

Lastly, the central bank acts as a financial advisor to the government on matters such as deficit financing, devaluation of the currency, foreign exchange policy, trade policy etc. It also represents the state in international financial conferences.

It is absolutely essential that there should be close co-operation between the central bank and the government. The government is the ultimate authority for laying down the monetary policies of the country and the central bank is the institution for carrying out of such policy. Therefore, the central bank should be consulted by the government while formulating the

monetary policy. It should also be given a free hand in carrying out such policy, and assisted by the government whenever necessary.

10.3.3 Banker's Bank :

The central bank acts as the friend, philosopher and guide of commercial banks. It has the responsibility of securing orderly development of banking in the country. In almost all the countries, the central bank does not compete with other commercial banks. They accept its leadership in all matters relating to banking policy. Commercial banks keep a part of their cash reserve with the central bank. The central bank in return, offers them remittance and rediscount facilities. The central bank regulates the activities of commercial banks. And the central bank has statutory powers to all for any information from the commercial banks and to issue any direction to them.

10.3.4 Custodian of Cash Reserves of Commercial Banks :

In every country, commercial banks keep a certain percentage of their cash reserves with the central bank either by custom or by law. The advantages of centralised cash reserves are as under:

1. It strengthens the confidence of the public and it is also the source of great strength to the banking system.
2. Centralised cash reserves can be used quickly and effectively by one or few banks in times of emergency.
3. It gives the central bank some control over the credit policies of the commercial banks by varying their reserves ratios.
4. It economises cash because in the absence of this practice each commercial bank would have to keep large amounts of reserve to meet emergencies.
5. In the absence of reserve ratio, commercial bank will have to keep sufficient reserves for all types of emergency. By maintaining cash reserve ratio, each commercial bank can conduct its business with lower cash reserves.
6. These reserves promote liquidity of commercial banks. They enable the central bank to undertake rediscounting of bills to meet the requirements of commercial banks.

10.3.5 Bank of Clearance :

The central bank maintains a clearing house for the benefit of commercial banks. The centralised cash reserves enable the central bank to settle inter-bank indebtedness. The claims of banks against one another are settled by simple transfer in their accounts maintained by the central bank.

This method of settling accounts through the central bank is not only convenient but also commercial. Through its clearing function, the central bank remains in constant touch with the liquidity position of the commercial banks which facilitate the central bank in the effective control of credit.

10.3.6 Custodian of the Nation's Reserves of International Currency :

The function of the central bank as the custodian the nations reserves of foreign exchange is automatically derived from its functions as the bank of issue and as the cash reserves of the commercial banks. The central bank has been entrusted with the custody of nations' reserves of foreign exchange so that difficulties in the balance of payments position can be met safely. It is also given the duty of maintaining stability in the external value of country's currency.

10.3.7 Lender of the Last Resort :

The central bank acts as bank of rediscount and lender of the last resort. The central bank acts as lender of the last resort in emergencies by rediscounting eligible bills, developed out of the rediscounting facilities given during periods of emergency.

The significance of rediscounting facilities lies in the fact it imports elasticity and liquidity to the entire credit structure. As De Kock says, "The provision of rediscount facilities by the central bank promotes economy in the use of bank cash and makes it possible for the banks individually as well as collectively to conduct their business with smaller cash reserves than if they were to depend only on their own resources".

10.3.8 Controller of Credit :

The most important function of the central bank is controlling the credit. De Kock observes, "it is the function which embraces the most important questions of central banking policy and the one through which practically all other functions are united and made to serve a common purpose. The function of note issue, the custody of cash reserve, the lender of the last resort enable the central bank to control the credit effectively.

Credit plays an important part in the economic life of a country. If credit is left uncontrolled, it might magnify business fluctuations. Fluctuation in the volume of credit cause wide fluctuations in the price level which result in social and economic dislocation. During recession when banks are not prepared to meet the genuine needs of trade and industry for finance, the central bank must take appropriate measure to stimulate bank advances. Similarly, during a boom the banks may be creating excessive credit which may also be flowing into considerable channels. During inflation also, the central bank must keep under control such undesirable tendencies by controlling the creation and distribution of credit by bank.

10.3.9 Miscellaneous Functions :

(1) The central bank maintains relations with international financial institutions like International Monetary Fund, International Bank for Reconstruction and Development.
(2) A central bank also conducts survey and publishes reports. Central banks have separate research departments.
(3) They also conduct seminars on topics of national interest.
(4) The central bank conducts general and intensive training to staff of all levels.

For rapid economic development a central bank has to perform the following functions :

(1)   The central bank should control and co-ordinate the policies of financial institutions in the country so that the savings are channelized into productive investments.

(2)   It should manage credit to help economic growth without causing inflation.

(3)   It should undertake banking facilities in the neglected areas.

10.4 SUMMARY:

A Central Bank is one which occupies a central position in the monetary and banking system of a country. It is the Apex financial authority of the country. Paul Samuelson defined Central Bank as "Every Central Bank has one function. It operates to control economy's supply of money and credit".

The basic functions of Central Banks issuing currency, Banker, Agent and Advisor to the governments, Banker's Bank, custodien of cash reserves of commercial banks, bank of clearance, lender of the last resort, controller of credit.

10.5 SELF ASSESSMENT QUESTIONS

1. Explain the definition and functions of Central Bank

10.6 REFERENCES :

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LESSON 11

CREDIT CONTROL METHODS

11.0 AIMS AND OBJECTIVES:

The main objective of the present lesson is to understand the quantitative methods of credit control and qualitative credit control. Students are going to learn bank rate, open market operations and variable reserve ratio as the parts of the methods of quantitative credit controls. Students are also going to study the qualitative methods such as margins, regulation of consumer credit, rationing of credit, direct actions, Moral suasions in addition to above two methods RBI is following selective and general measures to control credit in the economy.

STRUCTURE

11.1   Introduction
11.2   Quantitative Methods of Credit Control
      11.2.1 Bank Rate
      11.2.2 Open Market Operations
      11.2.3 Variable Reserve Ratio
11.3   Qualitative Methods of Credit Control
      11.3.1 Margins
      11.3.2 Regulation of Consumer Credit
      11.3.3 Rationing of Credit
      11.3.4 Direct Action
      11.3.5 Moral Persuasion
11.4   Selective Measures Vs General Measures
11.5   Credit Control Methods

11.1   INTRODUCTION :

The most important function of central bank is to maintain the stability of the monetary unit. It regulates the supply of currency and credit to ensure economic stability. Credit money represents a powerful force for good or evil. The central bank has to assume the responsibility of controlling credit. We know that the central bank is given the monopoly of currency issue. Since cash reserves form the basis for credit the same institution must control both currency end credit.

The objective of monetary policy vary from country to country depending on the stage of economic development. After the great depression of 1930's, the primary objective of monetary policy is the maintenance of high level of employment. Another equally important objective is to secure price stability. The other objectives are maintenance of balance of payments, stable exchange rates etc.

The central bank has to bring about necessary changes in the supply of money to achieve the objectives. The instruments through which it brings about changes in money supply are

called monetary or credit control instruments. Following are the various methods of credit control :

Methods of Credit control

General or Quantitative

Bank Rate   Open Market Operations   Variable Reserve

Selective or Qualitative

Margin Requirement of Credit   Regulation of Consumer Credit   Credit Rationing   Direct Action   Moral suasion and Publicity
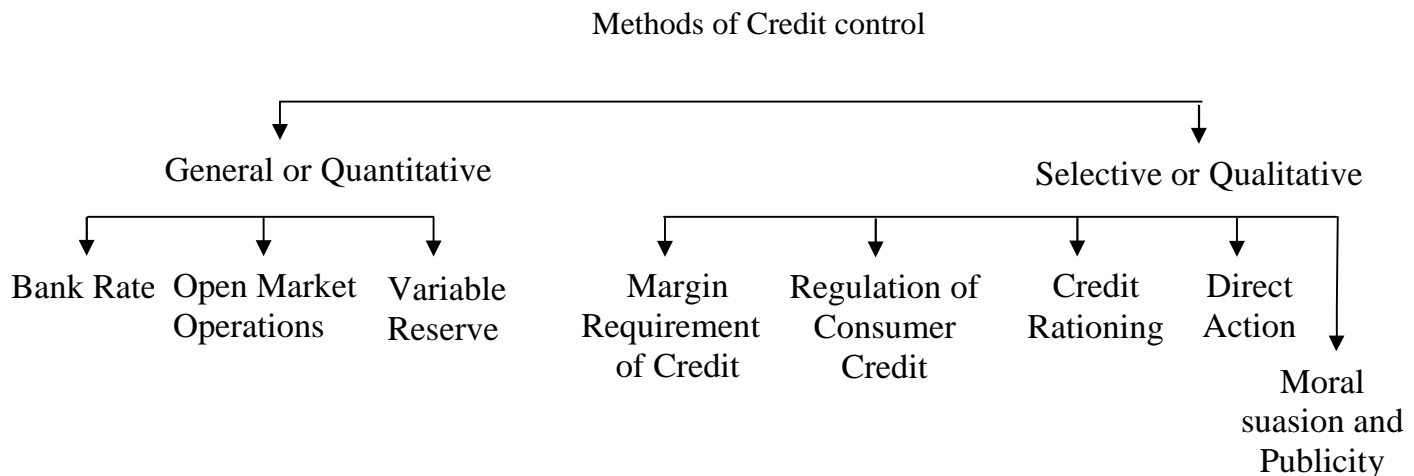
11.2 QUANTITATIVE METHODS OF CREDIT CONTROL :

The quantitative methods affect the quantity of credit in the economy as a whole. The selective methods are aimed at changing the supply of credit to selected sectors of the economy. Quantitative methods of credit control are as follows.

11.2.1 Bank Rate :

Bank Rate is an important method of credit control. The central bank is a lender of last resort. Bank rate is the official minimum rate at which the central bank rediscounts eligible bills and advances loans against approved securities to commercial banks. Bank Rate seeks to influence both the cost and availability of credit to member banks.

The principle underlying the mechanism of bank rate policy is that a change in the bank rate will be followed by a corresponding change in the market rates. Inflationary tendency of an economy raises the cost of borrowing by the commercial banks which would force them to increase their lending rates. Since borrowing from the banks by the business community could be discouraged, there would be contraction of credit. This will arrest the inflationary pressures. On the contrary, as the bank rate is lowered under deflationary situations, it would bring down the interest rate structure and the business community would borrow more.

The bank rate acts through three effects :

(a) Demand for bank credit effect
(b) Cost of credit effect
(c) Credit availability effect

(a)   Demand for Bank Credit Effort :

If the rate is raised, commercial banks receive less when they get their bills rediscounted at a higher bank rate from the central bank and the commercial banks' credit creating capacity be curtailed. If commercial banks increases their lending rates, it would discourage the borrowers. This effect depends upon the interest elasticity of demand for bank credit as well as the extent to which investment is financed form bank credit.

(b)   Cost of Credit Effect :

Higher bank rates would make credit costlier and reduce the volume of credit. Fluctuations in bank rate affect the volume of credit. Interest cost constitutes significant element in the cost structure of business firms, they will mobilise finances by releasing their stocks rather than financing it though bank credit.

(c)   Credit Availability Effect :

Bank Rate changes also influence the availability of credit. When the bank rate is increased, it acts as a red signal to the money market. The commercial banks expect a credit squeeze which compels them to follow a policy of cautions lending. Further, the rise in bank rate would also lead to rise in interest rates on government securities which would reduce the capital value of security holdings of commercial banks and curtail their lending potential. As it would not be profitable for the banks to finance business investment by liquidating their government securities, commercial banks would follow cautions lending policies and prefer to keep the securities till their maturity. This is known as locking-in-effect.

Conditions for Successful Working of Bank Rate Policy :

De Kock mention the following conditions for successful functioning of bank rate policy.

(1)   There should be close relationship between bank rate and other interest rates in the money market which implies that changes in bank rate must produce prompt and decisive changes in money rates and credit conditions.
(2)   The economic structure must be elastic so that changes in credit conditions automatically lead to corresponding changes in cost, prices, wages, production and employment.
(3)   International flow of capital should not be hampered by arbitrary and artificial restrictions.

Limitations :

(1)   There must be a close relationship between bank rate and other interest rates in the money market. Changes in bank rate leads to changes in the market rates, other wise the bank rate becomes ineffective. The close relationship of bank rate and others is possible only in well-organised money market where the financial institutions working on narrow margins. The effectiveness of policy is limited in those countries, where the money markets are not well-organised and where interest rates are not closely related.

(2)   A variation in the credit conditions produces immediate changes in costs, wages, prices, production and employment.

(3)   Successful working of bank rate policy is based on assumption that the commercial banks invariably approach the central bank for rediscounting their bills and securities. But the banks may not do so if their own resources are large enough.

(4)   The use of bank rate assumes that demand for funds is interest elastic. But it is not so in practice. Business men are generally over-optimistic during periods of boom and their demand for credit is interest inelastic. In times of depression also bank rate policy may be ineffective, the business community is not prepared to borrow even at the very low rate of interest.

(5)   Other methods of credit control open market operations, variable reserve ratios etc came into prominence because of their direct influence on cash reserves of banks and on credit conditions. But the bank is indirect in its effect and has lost much of its value.

(6)   Supporters of the use of bank rate believe that with an increase in bank rate and hence in interest rates payable on deposits with commercial banks, bank deposits increase. But others consider that saving is a function of the level of income rather than the rate of interest.

Bank Rate in Developed and Under Developed Money Markets :

In UK if the commercial banks are found to misuse the central banking accommodation, they can be prevented from doing so by charging a high rate, known as the penalty rate. But in USA the discount rate is kept lower than the rate of interest charged by the commercial banks known as concessional rate. The penalty rate is helpful in reducing the dependence of commercial banks on the central bank and is therefore more suitable in case of branch banking system. popular in UK concessional rates militate against open market operations when the central bank sells securities to absorb the cash reserves of commercial banks, for banks can take recoure to borrowing which is available at the concessional rate. Therefore in inflationary conditions, the penal rate is more effective than the concessional rate plus eligibility conditions.

Bank rate policy is not much effective in less developed countries like India because of the following limitations.

(1)   The money market is generally less organised and less developed. Hence, central bank may not control the entire market. As the indigenous bankers in India lie outside the scope of Reserve Bank, hence, changes in bank rate do not affect them

(2)   In such economies as bill market is not well developed and banks generally keep high cash reserves. They do not rely on the Central Bank to replenish their reserves by rediscounting of bills.

(3)   In under developed economies, the private sector will provide loans at cheaper rates compared with the existing bank rates

(4)   The rigid economic system of the less developed countries have further reduced the importance of bank rate policy in under developed countries.

The bank rate policy has been modified by countries to suit their own needs. In some countries, a ceiling has been fixed up to which the commercial banks can borrow from the central banks. The Reserve Bank of India has adopted the quota cum stab technique, which means the discount rate in India rises according to the slab system after a commercial bank's borrowing exceeds its quota. Recently the net liquidity ratio replaced this system. Net liquidity ratio means as the total of a commercial banks cash balances in current account with other banks and the investment in government securities, less its borrowings from the Reserve Bank of India and time liabilities, with the percentage fall of the net liquidity ratio, the discount rate will be raised.

11.2.2 Open Market Operations :

Open Market Operations consist of the purchase and sale by the central bank of any assets in the open market as a deliberate policy to control the volume of credit by influencing the liquidity position of banks. But in a wider sense, the term may be applied to the purchase and sale of any kind of paper in which the central bank deals, government or other securities or bankers acceptance or foreign exchange.

On account of open market operations then quantity of money in circulation changes. This tends to bring about changes in money rates and credit conditions. In turn, they tend to bring about the desired adjustments in the domestic level of prices, costs production and trade.

When the central bank sells securities in the open market, buyers of these securities draw cheques against their bank deposits in favour of the central bank. The cash reserves of commercial banks decrease having been transferred to the central bank. Therefore, commercial banks find it necessary to contact credit so as to maintain their customary cash ratios. Thus open market sale of securities lead to multiple contraction of credit.

When securities are purchased by the central bank in the open market, the central bank makes payments to sellers of securities. These payments find their way into commercial banks, which find that their deposits with the central bank have increased. Thereby the capacity of commercial banks to create credit increased. This leads to a fall in money rates and this tends to bring about the desired adjustments in prices, costs, production and trade.

Conditions for the Successful Execution of Open Market Operations :

(1)   Existence of a Broad and Well-Organised Market :

There must be a broad and active market in the types of long – term and short– term in which the central bank deals.

(2) Availability of Securities :

The successful working of the open market operations policy requires that the central bank should have sufficient marketable securities available with in. In some countries the central bank has been empowered to issue their own securities so as overcome this difficulty.

(3) Cash Reserve Ratio :

The cash reserves of commercial banks and quantity of money in circulation must increase or decrease to the extent of open market operations.

(4) Absence of an Excessive Volume of Government Debt :

There should not be a large volume of government debt. Such debt would be an obstacle in the successful working of open market policy in a narrow security market.

(5) Existence of Penal Bank Rate :

A Penal Bank rate should be maintained for success of open market operations. If the discount rate is concessional, it induces the commercial banks to take recourse to central bank borrowing and make up their loss of reserve in open-market operations. Only the penal discount-rate would deter the commercial banks from doing so.

Objects :

Open market operations are generally undertaken for the following purposes :

(1) To absorb excess liquid funds.
(2) To prepare the ground for changes in bank rate or to make the bank rate effective.
(3) To avoid disturbance in money market due to the public finance operations. When taxes are paid there would be less money in circulation. The central bank buys securities at that time. When heavy expenditure is incurred by the government, the quantity of money in circulation increases. The central bank sells securities to squeeze out the excess money.
(4) To create and maintain cheap money as an aid to business recovery.
(5) To support the government credit in connection with the issue of new loans or conversion of existing loans.
(6) To offset the inflow and outflow of gold.

Usefulness of Open Market Operations :

The technique of open market operations is utilised for several other purposes. They are as follows :

(1) Marketing Bank Rate More Effective :

If the commercial banks have excessive funds with them and they do not increase their lending rates even after a hike in bank rate, the central bank can take away the surplus funds through the sale of securities in the market and thus compel them to raise their lending rates.

(2) Off Setting Excess of Funds :

If an economy experiences seasonal stringency or excess of funds, open market operations can be used for easing the stringency during the busy season by purchasing government securities. On the other hand open market operations would be conducted to absorb the excess funds of the banking sector during the slack season.

(3) Supporting the Securities Market :

To meet the needs of department of defence, the government has to resort to public borrowing. If the central bank is ready to sell and buy securities in unlimited amounts at a constant price, the prices of these securities should not fluctuate too much.

(4) Influencing the Term Structure of Interest Rates :

Open market operations can also be utilised for changing the term structure of interest rates as well as the maturity of public debt.

According to Aschheim "Not even all other techniques of central banking taken together can approximate the instrument of open market operations in terms of the efficiency imported to the monetary authority". It is the variegated use that open market operations are regard as the best technique.

Limitations :

(1)   Open market operations are based on the assumption that increase in the cash reserves of the commercial banks. Purchase of securities by central bank resulting expansion of credit while sale of securities causes contraction of credit. But this might not happen in practice because the purchase of securities is offset by outflow of gold from the banks or with drawl of notes for increased currency requirements or for hoarding purposes. On the contrary, the sale of securities may be neutralised by an inflow of gold or net favourable balance of payments or a return of notes from circulation.

(2)   If the cash reserves of the commercial banks increase or decrease to the extent expected of open market operation they may not expand or contract the credit accordingly.

(3)   The use of open market operations is based on assumption that the demand for credit is interest-elastic. But this is not so in practice because the demand for credit is mainly influenced by marginal efficiency of capital.

(4)   Lack of broad and organised market render open market policy ineffective.

(5)   The other assumption assumes that the velocity of circulation of bank credit is constant. But this is not true. The velocity is high in periods of expanding economic activity and low in periods of depression. Thus, the effect of purchase of securities by decreased velocity of circulation and vice versa.

(6)   The banks are guided by prevailing economic and political situation rather than by their cash reserves.

(7)   It is easier for the central bank to sell securities than to purchase them in open market operations. Where as commercial banks opens that it is easier to contract credit than to expand it. That is why the open market operations can stop booms but can not prevent slumps.

In open market operations the initiative lies with the central bank while it rests with the commercial banks in the case of bank rate policy. And the bank rate influences only short-term rates of interest directly where as open market operations have a direct influence on long term interest rates. Therefore one must be supplemented by the other to effectively control the supply of money.

11.2.3 Variable Reserve Ratio :

Variable reserve ratio as a method of credit control was suggested by Keynes. In all countries, commercial banks are required either by law or by custom, to maintain a percentage of their cash reserve with the central bank. India's central bank of India, has the power to vary the ratios of minimum cash reserves which the commercial banks are legally obligated to keep with it.

The RBI Amendment Act,1956 vested the Reserve Bank with the power to vary the minimum reserves requirement of the scheduled banks between 5 to 20% in respect of their time demand liabilities. In 1962 the requirement was changed from 3 to 15% of the total demand and time liabilities. In addition to this, the commercial banks were also required to maintain a minimum amount of 25 percent of their total liabilities in the form of liquid assets. This is known as the statutory liquidity ratio. In 1965 the liquidity ratio was raised to 30 percent. Under the law, the minimum reserve to be maintained by the commercial banks can be raised even to 45% i.e., 30% +45%. The reserve requirements were imposed upon commercial banks to ensure the liquidity and solvency of individual commercial banks.

Objective of Variable Reserve Ratio :

In addition to the main objective, variable reserve ratio provides the central bank with a supply of deposits of local operations. By varying this ratio, the central bank can affect the liquidity position of the commercial banks and there by influence the supply of credit. If the

central bank wants to restrict credit, it raises the reserve ratio as a result of which the excess reserves of the banks are reduced and the credit creating power is curtailed. Thus, the variable reserve ratio acts as a weapon of directly influencing the credit creation capacity of commercial banks.

Limitations :

1. **Discriminatory in Nature :** Variations in reserve ratio affect all banks whether big or small equally. It causes hardship to small banks. Thus it is discriminatory in nature.

2. **Fails in case of large cash reserves :** This method may not prove effective if the banks have large excess reserves, as even after satisfying the reserve requirement, their cash reserves may be large enough to permit credit expansion.

3. **Works only in Good Business Conditions:** The effectiveness of this technique is also conditioned by the demand for credit. For example, lowering of the reserve ratio may not be helpful in expanding credit if the business is dull.

4. **Does not Affect Non-Banking Financial Institutions :** The variable reserve ratio is discriminatory as its mandate extends to commercial banks only. Other financial institutions like credit societies, land mortgage banks, insurance companies lie outside its scope. In fact, non-banking financial institutions constitute rival sources for the supply of credit.

5. **Effect on the Securities Market :** It is often pointed out that this method has a disturbing effect on the securities market, when the banks are ordered to maintain a high cash reserve ratio, they may do so by selling their securities in the market which is likely to exercise a depressing effect on the securities prices.

6. **Undesirable Psychological Effects :** Variations in cash reserve ratio are associated with undesirable psychological effects. Frequent changes in reserve ratios create an atmosphere of uncertainty for the commercial banks. Therefore such changes should be made with due notice and in small measures so as to avoid shock.

7. **Impairs Profit-Earning Capacity :** This method has also been criticised on the ground that it may impair the profit earning capacity of the commercial banks.

In countries like India, where the money market is underdeveloped and unorganised, this method have been found to be of special significance.

11.3 SELECTIVE OR QUALITATIVE CREDIT CONTROL METHODS :

Selective credit controls are those which seek to influence particular sector or activities in the economy. Thus, the primary objective of selective credit control is to distinguish between essential and non-essential uses of bank credit and help the flow of funds into desirable uses without affecting the working efficiency of the economy as a whole.

The selective credit controls used by central bank are :
(1) Changes in margin requirements
(2) Regulation of consumer credit
(3) Rationing of credit
(4) Direct Action
(5) Moral suasion and publicity

11.3.1 Changes in the Margin Requirement on Secured Loans :

When a bank grant loans on the security of commodities, stock, bullion etc, it maintains margins. The bank does not lend to the full extent of the value of security pledged with the bank. The bank grants 60% to 80% of value of the collateral as a loan to avoid risk or loss, if the borrower fails to return the loan. The difference between the value of the pledge and the amount lent is known as margin.

To curtail bank advances, the central bank fixes a high margin and as a result the borrowing capacity of those who borrow against pledge is reduced. Similarly to raise the bank advances, the central bank fixes a lower margin. The method of fixing. Margins was first introduced by Federal Reserve System of the united states under the Securities Exchange Act, 1934 for regulating the supply of credit for speculative dealing in the stock exchange. Following are the advantages raising the margin requirements.

(1) The method can be effectively used to control credit used for speculative purposes without restricting its availability for other productive activities in industry, agriculture and trade. There by in contributes to stability in the economy.

(2) High margin requirements check in due monetary expansion and help control money supply when it is desired to control credit.

(3) The method can be successfully employed in checking inflation in the sensitive spots of the economy without adversely affecting the flow of inevitable funds into productive channels. In developing economies like India, importance of this technique cannot be over-emphasised.

(4) This method is simple and easy to administer. The central bank must be vested with wide discretionary powers as enjoyed by the Reserve Bank of India.

11.3.2 Regulation of Consumer Credit :

This method can be successfully used in those countries where extensive use of hire-purchase finance is made and durable consumer goods are bought and sold on instalment basis. The directives also stipulate the commodities that can be sold on instalment basis. In times of inflation, the central bank reduces consumer demand by

1. Reducing the number of goods sold on instalment basis
2. Prescribing higher down payments and

3.   Reducing the number of instalments.

In times of deflation, the number of commodities eligible for instalment trading is increased, down payment is reduced and the number of instalments is increased.

11.3.3 Rationing of Credit :

Credit rationing involves the distribution of bank credit among different sectors. The credit is rationed by limiting the amount to be made available for accommodation to each applicant. Thus rationing of credit seeks to control and regulate the purpose for which credit is granted by commercial banks.

Rationing of credit helps in the mobilisation of financial resources and their flow into desired channels to achieve the objectives of planning. This method can be justified only as temporary measure to meet the emergencies.

11.3.4 Direct Action :

Direct action may take any of the following forms :

1.   The central bank can refuse to rediscount the bills of those banks whose credit policy is not sound.
2.   The central bank may refuse to grant accommodation to those banks whose borrowings are in excess of their capital and cash reserves.
3.   The central bank can charge defaulting banks a penal rate of interest over and above the bank rate when they approach it for financial accommodation.

11.3.5 Moral Persuasion :

It implies persuading banks to follow certain policies prescribed by the central bank. There is no element of compulsion. The procedure of request, persuasion and advice adopted by a central bank for the control of bank advances is called moral suasion. The central bank seeks co-operation of commercial banks to refrain from increasing their loans for speculative or non-essential activities and also attempts to secure their willing and active co-operation for its general monetary policy.

11.4 SELECTIVE CREDIT CONTROL MEASURES VS GENERAL CREDIT CONTROL MEASURES :

In recent years, selective credit controls attains much importance in effective monetary management due to various reasons.

(1)   **Inadequacy of the General Credit Control :**There has been greater emphasis in recent years on qualitative credit control largely because these controls can overcome the short comings of traditional weapons of monetary management due to unorganised and

underdeveloped money markets. Quantitative measures prove ineffective and gives an edge to the selective control measures.

(2)   **Removes Sectoral Imbalances :** Selective Credit Control measures are preferable for the removal of sectoral imbalances. These imbalances may be due to inflationary pressure. Selective credit control measures are useful in stabilising the prices of food-grains and consumer goods. This helps in arresting flow of credit to speculative activities.

(3)   **Widening the Scope of Monetary Policy :** Selective credit controls directly affect the demand for loans and capacity of the bank to land. Selective credit controls can be used to stop the unhealthy development of an economy. In other words the selective credit controls are consistent with the policy of controlled expansion of credit for the purpose of achieving growth with stability.

(4)   **Correcting Lop-Sided Development :** Selective credit controls can be used for preventing the lop-sided development of an economy. Through these controls the flow of credit can be directed to the relatively less developed sectors. And these measures can be used for better distribution of the national product among different sections of the society.

The sound monetary management consists in making a selective use of general methods as well as selective credit controls. General credit controls are   applicable to all parts of the economy where as selective credit controls are in the nature of local therapy.

11.5 SUMMARY :

I.   Quantitative methods of credit control.
II.   Qualitative methods of credit control
III.   Selective measures Vs General measures

I.   **Quantitative Methods of Credit Control** can be classified under three heads. These are a) Bank rate, b) Open market Operations, c) Variable Reserve Ratio

II.   **Qualitative methods of Credit Control.**
Classified under five needs.   Theseare) Fixation of Margins 2) Regulation of consumer credit 3) Rationing of credit 4) Direct action and 5) Moral Suasion
III.   **Selective Measures Vs General Measures .**
These controls attains much importance in effective monetary management due to various reasons.   1) Inadequacy of the General credit control 2) Removes sectoral imbalances 3) Widening the scope of monetary policy 4) Corecting Lop-sided development.

11.6 SELF ASSESSEMENT QUESTIONS

1. Explain the Quantitative methods of credit control.
2. Explain the Qualitative methods of credit control.

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LESSON 12

RESERVE BANK OF INDIA

12.0 AIMS AND OBJECTIVES:

The main aim of this lesson is to make the students learn about the Reserve Bank of India and its objectives and functions.

Objectives : Regulating the issue of currency in India, establishing the monetary stability in the country. The main functions of RBI are note issue, Banker to Government, custodian of exchange reserve, controller of credit etc. other objectives of the study are to understand the monetary policy of RBI, Policy of credit control, working of Indian Monetary System, Chakravarthy Committee Report etc.

STRUCTURE

Introduction :

The Reserve Bank of India is India's Central Bank. It is the apex monetary institutions which supervises, regulates, controls and develops the monetary and financial system of the country. The Reserve Bank was established on April, 1935 under the Reserve Bank of India Act, 1934. It was share holder bank with a fully paid up capital of Rs. 5 crore. But in was nationalised on January 1, 1949.

12.2   Management and Organisation :

The management of RBI is under the control of Central Board of directors which consists of 20 members.

(a)   The executive head of the bank is called governor who is assisted by four deputy governors. They are appointed by the Government of India for period of five years.

(b)   There are four local boards at Delhi, Calcutta, Madras and Bombay representing four regional areas i.e., Northern, Eastern, Southern and Western respectively. These local boards are advisory in nature and the Government of India nominates one member from each board to the Central Board.

(c)   There are ten directors from various fields and one government official from the ministry of finance.

The Governor of the Reserve Bank can call a meeting of Central Board whenever he feels it necessary. The governor and deputy governor are full-time and prescribed salaried officials. Other directors are the part-time officials and are given allowance and fare to attend the meetings.

Organisation :

Organisationally, the Reserve Bank works through various departments. They are–

(1)   **Issue Department :** Its functions is to issue and distribute the paper currency

(2)   **Banking Department :** This department (a) Deals with government transactions, manages public debt and arranges for the transfer of government funds, (b) Maintain the cash reserves of the scheduled banks, (c) Works as a clearing house.

(3)   **Department of Banking Development :** It expands the banking facilities in unbanked and rural areas.

(4)   **Department of Banking Operations :** It grants licenses for opening new banks or new branches of existing banks. The function of this department is to supervise, regulate and control the working of banking institutions in the country.

(5)   **Agricultural Credit Department :** It deals with the problems of agriculture credit and provides facilities of rural credit to state governments and state co-operatives.

(6)   **Industrial Finance Department :** Its main objective is to provide financial help to the small and medium scale industries.

(7)   **Non-Banking companies Department :** It supervises the activities of non-banking companies and financial institutions in the country.

(8)   **Exchange Control Department :** It conducts the sale and purchase of foreign exchange.

(9) **Legal Department :**It provides advice to various departments on legal issues. It also gives legal advice on the implementation of banking laws in the country.

(10) **Department of Reserve and Statistics :**The function of this department is (a) to conduct research on various aspects i.e., on money, credit, finance, production etc.
(b) collect statistics relating to various aspects of the economy
(c) Publish these statistics

(11) **Department of Planning and Reorganisation :** It deals with the formulation of new plans or reorganisation of existing policies for making them more effective

(12) **Economic Department :**It is concerned with framing proper banking policies for better implementation of economic policies of the government.

(13) Inspection Department : It undertakes the function of inspecting various offices of the Commercial Banks.

(14) Department of accounts and Expenditure : It keeps proper records of all receipts and expenditure of the Reserve Bank.

(15) RBI Service Board : It deals with the selection of new employees, for different posts in the Reserve Bank.

12.3   Objectives of RBI :

The main objectives of RBI are
(a) Regulating the issue of currency in India.
(b) Keeping the foreign exchange reserves of the country.
(c) Establishing the monetary stability in the country.
(d) Developing the financial structure of the country on sound lines consistent with the national socio-economic objectives and polities.

12.5   Functions of the RBI :

The RBI performs various traditional Central Banking functions, and also undertakes the development and promotional functions. Following are the main functions performed by RBI.

12.4.1 Note Issue :

The RBI has a separate department which is engaged in issuing notes. It has the monopoly of note issue in the country. It has the right to issue currency notes of all denominations except one rupee notes. But it acts as the only source of legal tender because even one rupee notes are circulated through it. The RBI maintains minimum reserve system of note issue. Since 1957, it maintains gold and foreign exchange reserves of Rs. 200 crore, of which at least Rs. 115 crore should be in gold.

12.4.2 Banker to the Government :

The RBI renders useful service to the government in the capacity of its banker, agent, and advisor. The RBI has the obligation to transact the banking business of Central and State Governments.
(1) It maintains and operates government deposits.

(2)   It collects and makes payments on behalf of the government.

(3)   It helps the government to manage the public debt by granting new loans.

(4)   It sells for the central government treasury bills of 91 days duration.

(5)   It makes 'ways and means' advances to the central and state government for periods not exceeding three months.

(6)   It provides development finance to the government for implementing five year plans.

(7)   It undertakes foreign exchange transactions on behalf of the central government.

(8)   It acts an agent while dealing with International Monetary Fund, the World Bank, and other International Financial Institutions.

(9)   It advises the government on all financial matters such as loan operations, investments, agricultural and industrial finance, banking, planning, economic, development etc.

12.4.3 Banker's Bank :

The Banking Regulation Act of 1949 and the various amendments made there in define the RBI's regulatory functions relating to banks. These functions are quite extensive and cover such areas as the licensing of banks, branch expansion, liquidity of the assets of commercial banks, their management and methods of working, amalgamation, reconstruction and liquidation.

According to the Banking Regulation Act,1949, all banking companies included in the second schedule of the RBI are called Scheduled Banks. For including in second schedule, a bank must satisfy the RBI that its affairs are not conducted in a manner detrimental to the interest of the depositors. All Scheduled Banks are under a statutory obligation to maintain a certain minimum of cash reserve with the RBI against their demand and time liabilities.

An amendment of 1962 to the Banking Regulation Act has empowered the RBI to determine the cash reserve ratio between 3 per cent to 15 percent of aggregate demand and time liabilities. The RBI can also direct scheduled banks to maintain 100 percent cash reserve against all deposits received after a specified date. And the scheduled banks are required to submit weekly statements of their transactions to the RBI.

The RBI also provides financial assistance to scheduled commercial banks and state co-operative banks by discounting eligible bills and loans and advances against approved securities. As it is the responsibility of the RBI to see that the banking system in the country grows on sound lines, it observes the financial position of borrowing bank. Its lending policy and the securities offered while making advances to it. The RBI has the power to deny rediscounting facility of any bank without assigning any reason for it.

For exercising its control over the commercial banks, it conducts their inspection by its own staff and also calls for returns and other necessary information. If it feels unsatisfactory, it can suggest remedial measure.

12.4.4 Custodian of Exchange Reserve :

The Reserve bank is the custodian of India's foreign exchange reserves. It maintains and stabilises the external value of the Rupee, administers the exchange controls and restrictions imposed by the government and manages the foreign exchange reserves.

During World War II, for tackling balance of payments problems, various monetary and fiscal tools were inadequate. In these conditions, no remedy was available, India implemented direct methods of exchange control, which later became a permanent instrument of economic management.

Initially the stability of exchange rate was maintained through selling and purchasing sterling at fixed rates. Prior to 1947, exchange controls were exercised under the Defence of India Act. In 1947 the Foreign Exchange Regulation Act (FERA) was passed and through it the RBI exercises its power of foreign exchange management. Later FERA was substituted by Foreign Exchange Regulation Act, 1973. FERA provided that no authorised person would buy or sell foreign exchange. Now FERA has been replaced by Foreign Exchange Management Act (FEMA).

12.4.5 Controller of Credit :

The Reserve Bank undertakes the responsibility of controlling credit in order to secure internal stability and promote economic growth. So that the Reserve Bank attempts to achieve price stability in the country and avoids inflationary and deflationary tendencies in the country. The Reserve Bank regulates money supply in accordance with the changing requirements of the economy. The Reserve Bank makes extensive use of various qualitative and qualitative techniques to effective control and regulate credit in the country.

12.4.6 Agricultural Finance :

Although the RBI has been established on the model of the Bank of England, it has a unique feature in its character. The agricultural credit department of RBI clearly distinguished it from the Central Bank of developed countries. Making his observations on RBI's role in agricultural finance B. Rama Rao, a former governor of the RBI has stated that "RBI could not have justified its existence in India if it confined its activities to the industrial sector and completely ignored agricultural sector, on which industrial development to a large extent depended". Therefore, this function has a particular significance in agricultural country like India. For this purpose RBI set up a special agricultural credit department. But its major function was taken over by National Bank for Agricultural and Rural Development which was established July 12, 1982.

12.4.7 Development and Promotional Functions:

Besides the traditional central banking functions, the Reserve Bank performs a variety of promotional and development functions.

(a)   It helps the commercial banks to expand their branches in semi-urban and rural areas.
(b)   It reduces the dependence of people on unorganised sector of indigenous bankers and money lenders.
(c)   It develops the banking habit of people.

(d)　　By establishing the Deposit Insurance Corporation, RBI helps to develop the banking system of the country, and attains confidence of the depositors and avoids bank failures.

(e)　　Through Unit Trust of India, it helps to mobilise saving in the country.

(f)　　It has been making its efforts to promote institutional agricultural credit through co-operative credit institutions.

(g)　　It helps to promote industrial credit through specialised institutions for industrial finance.

(h)　　It takes necessary measures for the development of bill market in the country.

12.5　Monetary Policy of the Reserve Bank of India

12.5.1　Introduction :

With the introduction of the five-year plans, the need for appropriate adjustment in monetary and fiscal policies to attain the planned development in the economy. Since the first plan period, the RBI adopts a policy of "Adequate financing of economic growth and at the same time ensuring reasonable price stability". Following are the aims of economic policy of the government.

(a)　　Speed up economic development in the country to raise national income and standard of living.

(b)　　To control and reduce in flationary pressure in the economy.

Monetary and fiscal policies are closely related, and should be persuaded in co-ordination with each other. Generally, Fiscal policy brings about changes in money supply through the budget deficit. An excessive budget deficit shifts the burden of control of inflation to monetary policy. This requires a restrictive credit policy. On the other hand, a fiscal policy keeps the budget deficit at a very low level, and free from the burden of adopting an anti-inflationary monetary policy. The monetary policy can play a positive role in promoting economic growth by extending credit facilities to development programmes. The monetary policy of Reserve Bank termed as "Controlled Expansion". It aims at adequately financing for economic growth and ensuring reasonable price stability in the country.

12.5.2　Policy of Credit Expansion :

This expansion has been achieved by adopting the following measures.

1.　Revision of Open-Market Operations :

Open market operations of 1956, RBI started giving discriminatory support to the sale and purchase of government securities. Later, the bank's sales of government securities to the public exceeded its purchases. The excess sales method was discontinued with a purpose of expanding currency an credit in the economy.

2.　Liberalisating the Bill Market Scheme :

Since 1957, the Reserve Bank extended the bill market scheme to include export bill in order to help the commercial banks to provide credit to exporters liberally.

3. Facilities to Priority Sectors :

The Reserve Bank continues to provide credit facilities to priority sector such as small scale industries and co-operatives, even though the general policy of bank is to control credit expansion.

4. Refinance and Rediscounting Facilities :

In recent years, the Reserve Bank has been following a policy of providing selective refinance and rediscounting facilities.

5. Credit Facilities through Financial Institutions :

The Reserve Bank provides medium-term and long-term credit facilities for development through various financial institutions like-

- ♦ Industrial Development Bank of India (IDBI)
- ♦ Industrial Finance Corporation of India (IFCI)
- ♦ Industrial Reconstruction Corporation of India (IRCI)
- ♦ Industrial Credit and Investment Corporation of India (ICICI)
- ♦ State Finance Corporations (SFCs)
- ♦ Agricultural Refinance and Development Corporation (ARDC)   and
- ♦ National Bank for Agricultural and Rural Development (NABARD)

6. Deficit Financing :

Continuous increase in money supply has been caused by adopting the method of deficit financing to finance the budgetary deficit of the government. This has been made possible through changes in the reserve requirements of the Reserve Bank.

7. Anti – Inflationary Fiscal Policy :

A Fiscal policy that keeps the budget deficit down would give greater autonomy policy. An anti-inflationary fiscal policy will liberate the Reserve Bank for its anti-inflationary responsibilities and will enable to extend sufficient credit facilities for the development of industry and trade.

8. Allocation of Credit :

The pattern of allocation of credit is in accordance with the plan priorities. A certain minimum of credit at concessional rates of interest is ensured for priority sectors through selective credit control, and the differential rate of interest scheme.

12.6   Policy of Credit Control :

Along with the development and expansionary requirements of the economy, the Reserve Bank has also been assigned the task of controlling the inflationary pressure in the economy. The Reserve Bank has adopted a number of credit control measures to check the inflationary tendencies in the country.

12.6.1 Bank Rate :

The bank rate is the rate at which the Reserve Bank advances to the member banks against approved securities or rediscounts the eligible bills of exchange and other papers. Changes in bank rate influences the entire structure of interest rates. A rise in bank rate leads to a rise in interest rates of other markets which implies a dear money policy increasing the cost of borrowing. Similarly, a fall in the bank rate results in a fall in other market rates, which implies a cheap money policy reducing the cost of borrowing.

RBI states with a cheap money policy and fixed a low bank rate (3%) and did not change it till November 1953 when it raised the bank rate to 3.5 percent. The bank gradually rises it to 10% in July 1981, and later 11% in July 1991 and 12% in October 1991. The role of bank rate as an instrument of monetary policy has been very limited in India because of these basic factors :

(1)   The structure of interest rates is administered by RBI – They are not automatically linked to the bank rate.
(2)   Commercial Banks enjoy specific refinance facilities and not necessarily rediscount their eligible securities with RBI at bank rate and
(3)   The bill market is under developed and the different sub-markets of the money market are not influenced by the bank rate.

Since the later part of 1995, India passed through a severe liquidity crunch and as a result the prime lending rates were ruling high. Industrial production was affected adversely. In April 1997 the RBI reduced the bank rate from 12 percent to 11. This reduction of bank rate was to help in the reduction of other interest rates which stimulates the borrowings from other banks.

12.6.2 Cash Reserve Requirements :

Another weapon available to RBI for credit control is the use of variable cash reserve requirements. Under RBI Act, 1934 every commercial bank has to keep certain minimum cash reserves with RBI. Initially, it was 5 percent against demand deposits and 2 percent against time deposits. Since 1962, RBI was empowered to vary the cash reserve requirement between 3 percent and 15 percent of the total demand and time deposits. RBI raised C.R.R from 3 to 15% in June 1973 and 7 percent in September 1973. Since then RBI has raised or reduced CRR a number of times and finally raised to 15 percent of net demand time liabilities to influence the volume of cash with commercial banks which influence their volume of credit.

RBI has reduced CRR to 8 percent in 1997 and finally to 5 percent in June 2002.

12.6.3 Statutory Liquidity Ratio (SLR) :

Under sec 24 of Banking Regulation Act, 1949, all commercial banks have to maintain liquid assets in the form of cash, gold and unencumbered approved securities equal to not less than 25 percent of their total demand and time deposit liabilities. This is known as the statutory liquid requirement, in addition to statutory cash reserve requirements.

RBI was given the power to change the liquidity ratio from 25 percent gradually and finally to 38.5 percent. RBI has increased SLR for two reasons :

(1)   Higher liquidity ratio forces commercial banks to maintain in larger portion of their resources in liquid form and thus reduces their capacity to grant loans and advances to business and industry and they are anti-inflationary.
(2)   A higher SLR was used to divert bank funds to finance government expenditure.

After accepting Narasimham Committee (1991) recommendation, RBI reduced the SLR by 25 percent in October 1997. There is now a demand to abolish SLR together.

12.6.4 Open Market – Operations :

Since 1991, the enormous inflow of foreign funds into India created the problem of excess liquidity with the banking sector. RBI undertook large scale open market operations. When RBI sells government securities in the market, it withdraws a part of the cash reserves of commercial banks which reduces the ability of banks to lend. At any given time, the capacity of banks to create credit depend up on their excess cash, i.e., the excess amount of cash reserves in excess of their statutory CRR. Once the surplus cash is eliminated and even part of the statutory CRR is reduced, the banks have to contract their credit supply. As a result, bank credit falls and money supply contracts.

Opposite is the case, when the RBI buys government securities from the market. The commercial banks will fund their surplus cash. They will create more credit and more bank deposits. The supply of money will expand. Hence, RBI will actively use open market operations as an instrument of monetary policy and not simply to support the market for government bonds.

12.6.5 Selective and Direct Credit Controls :

Under the Banking Regulation Act 1949, section 21 empowers RBI to issue directives to the banking companies regarding their advances.

These directions may relate to :
(1)   The purpose for which advances may or may not be made.
(2)   The margin to be maintained in respect of secured advances.
(3)   The maximum amount of advance to any borrower.
(4)   The maximum amount up to which guarantees may be given by the banking company on behalf of any firm, company etc.
(5)   The rate of interests and other terms and conditions for granting advances.

Many other direct controls have been imposed by RBI on the nationalised banks in the matter of their credit operations. Generally RBI uses three kinds of selective credit controls :

(1)   Minimum margins for lending against specific securities.
(2)   Ceiling on the amounts of credit for certain purposes and
(3)   Discriminatory rate of interest charged on certain types of advances.

12.6.6 Credit Authorisation Scheme (CAS) :

This scheme was introduced by RBI in November 1965. Under this scheme the commercial banks have to obtain RBI's authorisation before sanctioning any fresh credit of Rs. 1 crore or more to any single party. This was raised gradually to Rs. 6 crores in April 1986 in respect of borrowers in private as well as public sectors. The cut off point for all manufacturing units and exports was raised to Rs.7 crores. CAS was further liberliased in July 1987 to allow for greater access to credit to meet genuine demands in population sectors without prior sanction of RBI. With a view to deregulate and liberalise the financial system in the country, RBI took a series of steps after 1987. One of the major steps taken by RBI was to abolish Credit Authorisation scheme (CAS) in October 1988.

12.6.7 Credit Monitoring Arrangement (CMA) :

To ensure that the basic financial discipline continued to be observed by banks, RBI would monitor and scrutinises all sanctions of bank loans exceeding
(1) Rs. 5 crores to any single party for working capital requirements and
(2) Rs. 2 crores in case of term loans.

This post sanction scheme has been designated as Credit Monitoring Arrangement (CMA).

12.6.8 Moral Suasion:

The Reserve Bank has also been using moral suasion as a selective credit control measure. It has been sending periodic letters to the commercial banks to use restraint over their credit policies in general and in respect to certain commodities and unsecured loans in particular.

12.7   Working of the Indian Monetary System :

The Central Banking Enquiry Committee reviewed the working of Indian monetary system in twenties and thirties of this century, and so many changes had taken place in the Indian economy. Since Independence, the Indian monetary system has helped in the mobilisation of resources in the implementation of the first five year plans and has also attempted to control the inflationary process, Inherent in rapid economic development. The Reserve Bank of India wanted a fresh look at the Indian monetary system and accordingly appointed a committee in December 1982 with professor Sukhamoy Chakravarty as Chairman to review the working of Indian monetary system. The Chakravarty committee was asked :

(a)   To review critically the structure and operation of the monetary system in the context of the basic objectives of planned development.
(b)   To evaluate the various instruments of monetary and credit policies.
(c)   To recommend suitable measures for the formulation and operation of monetary and credit policies and for strengthening the instruments of monetary and credit policies. Chakravarty Committee submitted its report in May 1985.

12.8   Chakravarty Committee Report

Following are the main recommendations of the committee.

(1)   Objectives of Price Stability :

The monetary authority should pursue the objective of price stability in the broadest sense. To achieve the objective of price stability, both supply management and demand management measures are to be pursued

    (a) The government should aim at raising output levels and
    (b) The reserve Bank should control the money supply.

(2)   Monetary Targeting :

The committee observed that the major cause of substantial increase in the money supply since 1970 has been the rise in Reserve and credit to government, as reflected in the high degree of monetisation of debt. The reason for excessive monetisation of debt are

(1)   Relatively low yield of government securities
(2)   The low discount rate of the Reserve Bank on Treasury bills, the government should raise its financial resources either by mobilising the public saving or by increasing tax revenues or by borrowing from sources other than the Reserve Bank.

(3)   Redefining budgetary Deficit :

The Committee suggested a change in the definition of budgetary deficit so as to make it an economically meaningful and unambiguous measure of the monetary impact of fiscal operations. The present definition of budgetary deficit includes only changes in the treasury bills out standing. The definition overstates extent of monetary impact of fiscal operations.

(4)   Interest Rate Policy :

The Committee has made the following recommendations regarding the policy of rate of interest.

(a) Banks should have greater freedom in determining their lending rates. This prevents the excessive use of credit because of relatively low rates.
(b) Concessional rates as a distributive device should be used in very selective manner.

(c)   The interest rates on bank deposits should be positive after adjusting for inflation. This encourages small savers.

(d)   The interest rates should reflect the real cost of long term loans for industrial projects.

(5)   Bank Credit Policy :

The Committee has made the following recommendations regarding the credit policies and procedures of the banks to ensure more efficient use of bank credit.

(a)   Bank credit should be granted in the form of loans and bill finance, rather than predominating in the form of cash credit.

(b)   There should be stricter discipline in the use of bank credit. Loan requests should be more carefully examined.

(6)   Priority Sector Lending :

In order to improve the effectiveness of priority sector lending the committee has emphasised the need of organisational reorientation and effective communication and monitoring. Credit delivery system should be strengthened in the area of priority sector lending so that sufficient and timely credit is made available to this sector.

(7)   Development of Money Market :

The Committee has asked the Reserve Bank to take measure system of the economy should be reconstructed in such a way that the Treasury Bill Market, the Call Money Market, the Commercial Bill Market are able to play an important role in the allocation of short-term resources with minimum transaction cost and minimum of delay.

(8)   Role of Reserve Bank :

The Committee has made certain recommendations to improve the functioning the Reserve Bank of India.

(a)   The Reserve Bank should not depend much on any single instrument of monetary policy.

(b)   The Reserve Bank should adopt the regulatory measures early and slowly so that the effects of such measures are not too drastic and create hardships to the specific sectors.

(c)   The creation of reserve money should be kept within limits.

(d)   The development institutions should secure their working funds ordinarily from sources other than the Reserve Bank and Reserve Bank's support to these institutions should be only secondary.

The government has accepted most of the recommendations of the Chakravarty Committee.

(1)   In the 1986-87 budget presented to parliament, the government accepted the modified definition of budget deficit as suggested by the committee.

(2)   The Government has accepted the recommendation for setting up of the over-all monetary targets with feed back to enable changes in the target in the light of emerging trends in output and prices. RBI has been setting up operationally meaningful monetary targets and monitoring them regularly.

(3)   The government has accepted the committee's recommendations to Develop Treasury Bills as a monetary instrument. Accordingly treasury bills of 182 days maturity and later 364 days maturity are being issued on a monthly auction basis. The rate of discount and the corresponding issue price of these bills are flexible and are determined through auctions.

(4)   The government has accepted the committee's recommendations for an upward revision of yields on government securities coupled with shortening of maturities to attract funds from the capital market. The government has been increasing the yield on government securities according to market conditions.

Achievements and Failures of Reserve Bank :

Since its inception in 1935, the Reserve Bank of India has functional with great success, not only as the apex financial institution in the country, but also as the promoter of economic development. The major contributions of the Reserve Bank to economic development are as follows :

1)   Promotion of Commercial Banking :

The Banking Regulation Act, 1949 has given the Reserve Bank vast powers of supervision and control of Commercial Banks in the country. The Reserve Bank has been using these powers

   (a) To strengthen the commercial banking structure through liquidation and amalgamation of banks.
   (b) To extend the banking facilities in the semi-urban and rural areas.
   (c) To promote the allocation of credit in favour of the priority sector such as agriculture, small scale industries, exports etc.

2)   Development of Bill Market :

The Reserve Bank introduced the Bill Market scheme in 1952, with a view to extend loans to the commercial banks against demanded promissory notes. The scheme was not based on the genuine Trade Bills, but up on the conversion of loans and advances of the banks into Usance Bills. This scheme has helped a lot in developing the bill market in the country. Later, RBI introduced the new bill market scheme which covered the genuine trade bills representing sale or dispatch of goods.

3)   Promotion of Rural Credit :

The Reserve Bank has taken the following efforts to promote rural credit.

(a) It has set up the agricultural credit department to expand and co-ordinate credit facilities to the rural areas.
(b) On the recommendation of rural credit survey committee, it has been attempting all necessary measures to strengthen the co-operative credit system with a view to meet the financial needs of the rural people.
(c) In1956, the bank set up two funds i.e., the National Agricultural Credit (long –term operations) Fund and National Agricultural Credit (stabilisation fund) for providing medium and long term loans to the state co-operative Banks.
(d) One of the main objectives of nationalisation of commercial banks was to expand bank credit facilities in rural areas.
(e) Regional rural banks have been established.
(f) The National Bank for Agriculture and Rural Development has been established in 1982 as the apex institution for agricultural finance.

4)   Promotion of co-operative Credit :

Promotion of co-operative Credit movement is also the special function of Reserve Bank. In 1951, the bank appointed Rural Credit survey committee to meet the credit requirements of the rural people. On the recommendation of the committee, the RBI has taken a number of measures to strengthen the structure of co-operative credit institutions throughout the country to liberalise the co-operative credit and to increase the share of co-operative credit in rural areas. The RBI does not provide its financial assistance to agriculturists directly, but through co-operative institutions.

5)   Promotion of Industrial Finance :

In 1957, Reserve Bank has set up a separate Industrial Finance Department which has rendered useful service in extending financial and organisational assistance to the institutions providing long-term industrial finance. The Reserve Bank established various financial institutions such as Industrial Development Bank of India, Industrial Finance Corporation of India, The State Finance Corporation, The State Industrial Development Corporations, The Industrial Credit and Investment Corporation of India etc. The Reserve Bank also encourages bank credit to small scale industries small scale industries have been recognised as a priority sector.

6)   Promotion of Export Credit :

The Reserve Bank promotes export finance through various measure.

(1)   It provides refinance facilities to banks to encourage export credit under various schemes such as Bill Market Scheme (1958), Export Bills Credit Scheme (1963), Pre-shipment Credit Scheme (1969), Duty Draw back Credit Scheme (1976).

(2) The RBI, has been granting concessional interest rates on various types of export credit granted by scheduled banks.

(3) Export has been recognised as a priority sector and receive preferential treatment from the banks with regard to the availability of credit.

(4) In 1982, the Government of India has set up the Export – Import Bank as the apex institution for financing foreign trade.

7) Credit to Weaker Sections :

The Reserve Bank has taken the following measures to encourage adequate and cheaper credit to the weaker sections of society.

(a) In 1971 the Credit Guarantee Corporation of India was set up which was later converted into Deposit Insurance Corporation in 1978.

(b) In 1972, the differential rate of interest scheme was introduced.

8) Regulation of Credit :

The Reserve Bank has been using various credit control weapons to regulate

(a) The cost of credit
(b) The amount of credit
(c) The purpose of credit

It has been using the quantitative measure to control credit. By regulating credit, the Reserve Bank has been able to certain extent

(a) To promote economic growth in the country
(b) To prevent financial resources from being used for speculative purposes
(c) To prevent financial resources available for productive purposes
(d) To make financial resources available for productive purpose and
(e) To encourage savings in the country.

Other achievements of the Reserve Bank are :

(1) It can remove the variations in the rate of interest in different seasons.

(2) It has been stabilisng the bank rate in the country.

(3) It has been managing the public debt in the country with great success. 'Way and Means' funds are also arranged for the government through the sale of treasury bills.

(4) It has been providing cheap remittance facilities to the government; the scheduled banks and co-operative banks for the transfer of funds from one place to another.

(5) It has also been able to maintain the stability of the exchange value of the rupee under heavy strains and pressure.

(6) It has also successfully represented the country in international monetary conferences.

(7) The research and statistical department of Reserve Bank has been conducting and encouraging research.

(8)   It has been making clearing facilities in different centres of the country.
(9)   It is also extending training facilities to the supervisory staff of the banks through its banker's training colleges.

Failures :

Major failures of the Reserve Bank are given below :

(1)   A large part of Indian money market still remains outside the control of the Reserve Bank.
(2)   The Reserve Bank has not succeeded in developing Indian Exchange Bank.
(3)   The Reserve Bank failed to protect some of the member banks in times of crisis.
(4)   The Reserve Bank has also not been able to successfully develop the bill market in the country.
(5)   Inspite of several credit control measures taken by they Reserve Bank, it has not been able to control effective. The rapidly increasing credit and money supply in the country.
(6)   The Reserve Bank could not exercise its effective control over the expansion of black money and other unproductive activities in the economy.
(7)   Inspite of many attempts made by the Reserve Bank to improve and expand agricultural finance in the country, adequate and cheap credit is still not available to the Indian farmers.

Despite certain failures and short comings of the Reserve Bank, the overall performance of the bank is quite satisfactory. It has efficiently operated the credit and currency system and achieved fair degree of monetary stability.

12.9 SUMMARY:

Reserve Bank of India is India's Central Bank. It is the apex monetary institution which supervises, regulates, controls and develops the monetary and financial system of the country.

Organisationally the RBI works through various departments. They are (1) issue department (2)Banking department 3) Department of Banking Operations 4) Agricultural credit department, etc.

The main Objectives of RBI are a) regulating the issue of currency in India. B) Monetary stability, etc.

Functions of RBI : 1) Note issue, 2) Banker to the government, 3) Banker's Bank 4) Custodian of Exchange Reserve. 5) Controller of credit 6) Agricultural Finance, etc.

Monetary Policy of RBI – Aims of Policy – 1) Speed up economic development in the country 2) to control and reduce inflationary pressure in the economy.

Policy of Credit Expansion – Revision of open market operations, liberalisation the bill market scheme, facilities to priority sectors, deficit financing, etc.

Bank Rate : The bank rate is the rate at which the Reserve Bank advances to the member banks against approved securities or rediscount the eligible bills of exchange and other papers.

Cash Reserve Requirements – Under RBI Act, 1974 every Commercial Bank has to keep certain minimum cash reserves with RBI.

Statutory Liquidity Ratio – Under sec. 24 of Banking Regulation Act 1949, all commercial banks have to maintain liquid assests in the form of cash, gold and some securities equal to not less than 25 percent of their total demand and time deposit liabilities.

Open Market Operations – RBI Controls the problem of excess liquidity and the problem of lack of funds to create credit through open market operations.

Other Policies of RBI credit control – directive, credit authorisation scheme, credit monetary arrangement, moral suasion, etc.

Working of the Indian Monetary System – Since Independence, the Indian monetary system has helped in the mobilisation of resources in the implementation of the first five year plans and has also attempted to control the inflationary process. The RBI appointed a Committee in December, 1982 with Professor Sukhamoy Chakravarthy as Chairman to review to working of Indian Monetary system.

Recommendations of the Chakravarthy Committee Report – Price stability, monetary targeting, redefining budgeting deficit, interest rate policy, bank credit policy, priority sector lending, development of money market, etc.

Achievements of RBI – Promotion of Commercial banking, development of bill market, promotion of rural credit and co-operative credit, promotion of Industrial finance, promotion of export credit, credit to weaker sections and regulation of credit.

Failures – The major failures are 1) large money market remains outside the control of the RBI. 2) has not succeeded in developing Indian Exchange Bank. 3) failed to protect some of the member banks in times of crisis, etc. 4) Inspite of many attempts made by RBI to extend agricultural finance, adequate and cheap credit is still not available to the Indian Farmers.

12.10 SELF ASSESSMENT QUESTIONS

1. Explain the concept of Management and Organisation of RBI
2. Explain the functions of Reserve Bank of India.

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LESSON 13

RECENT TRENDS IN INDIAN BANKING SYSTEM

13.0 AIMS AND OBJECTIVES:

The main objective of this lesson is to make to understand the composition of Indian Banking, progress of Banking, Nationalization of Banks, Branch expansion, Deposit Mobilization, Expansion of Bank credit, Innovation in Banking etc. Other aim of the lesson is to provide knowledge regarding Banking reforms- Narasimham Committee.

STRUCTURE

13.1   Structure of Financial System :

The financial system of India refers to the system the system of borrowing and lending of funds or the demand for the supply of funds of all individuals institutions, companies and of the Government. Financial system is generally classified into :-

(1)   Industrial Finance : Funds required for the conduct of industry and trade

(2)   Agricultural Finance : Funds needed and supplied for the conduct of agriculture and allied activity.

(3)   Development Finance : Funds needed for development which includes both industrial finance and agricultural finance

(4)   Government Finance : Relates to the demand for and supply of funds to meet government expenditure.

The Indian financial system is composed of

(1)   The banking system, the insurance companies, various funds and other institutions which promote saving among the public, collect the savings and transfer them to actual investors.

(2)   The investors in the country composed of individual investors, industrial and trading companies and the government.

13.2   Composition of Indian Banking System :

The organised banking system in India can be broadly divided into three categories i.e., Central Bank of the country known as Reserve Bank of India, The Commercial Banks and Co-operative Banks. The Reserve bank of India is supreme monetary and banking authority in the country and has the responsibility to control the banking system in the country. Another classification of banks in India is between scheduled and non-scheduled banks.

Scheduled and Non-Scheduled Banks :

Under the Reserve Bank of India act, 1934, banks were classified as scheduled banks and non-scheduled banks. The scheduled banks are those which are entered in the second schedule of RBI Act, 1934. They should have a paid up capital and reserves of an aggregate of not less than Rs. 5 lakhs. All Commercial banks-Indian and foreign, regional rural banks and co-operative banks are scheduled banks. Non- scheduled banks are those which have not been included in the second scheduled of RBI Act, 1934.

Scheduled Banking structure in India

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                        Reserve Bank of India
                                │
                                ▼
                            Scheduled
                              Banks
          ┌─────────────────────┴──────────────────────────┐
          ▼                                                 ▼
      Scheduled                                         Scheduled
      Commercial                                        Cooperative
        Banks                                             Banks
  ┌──────┬──────────┬──────────┐              ┌──────────────┬──────────────┐
  ▼      ▼          ▼          ▼              ▼                            ▼
Public  Private   Foreign   Regional       Scheduled                   Scheduled
sector  sector    Banks     rural          Urban                       State
Banks   Banks     in India  banks          Cooperative                 Cooperative
                                           Banks                       Banks
  │         │           │          │
  ▼         ▼           ▼          ▼
Nationalised  State Bank of   Old private   New private
Banks         India & its     Banks         Banks
              accessories
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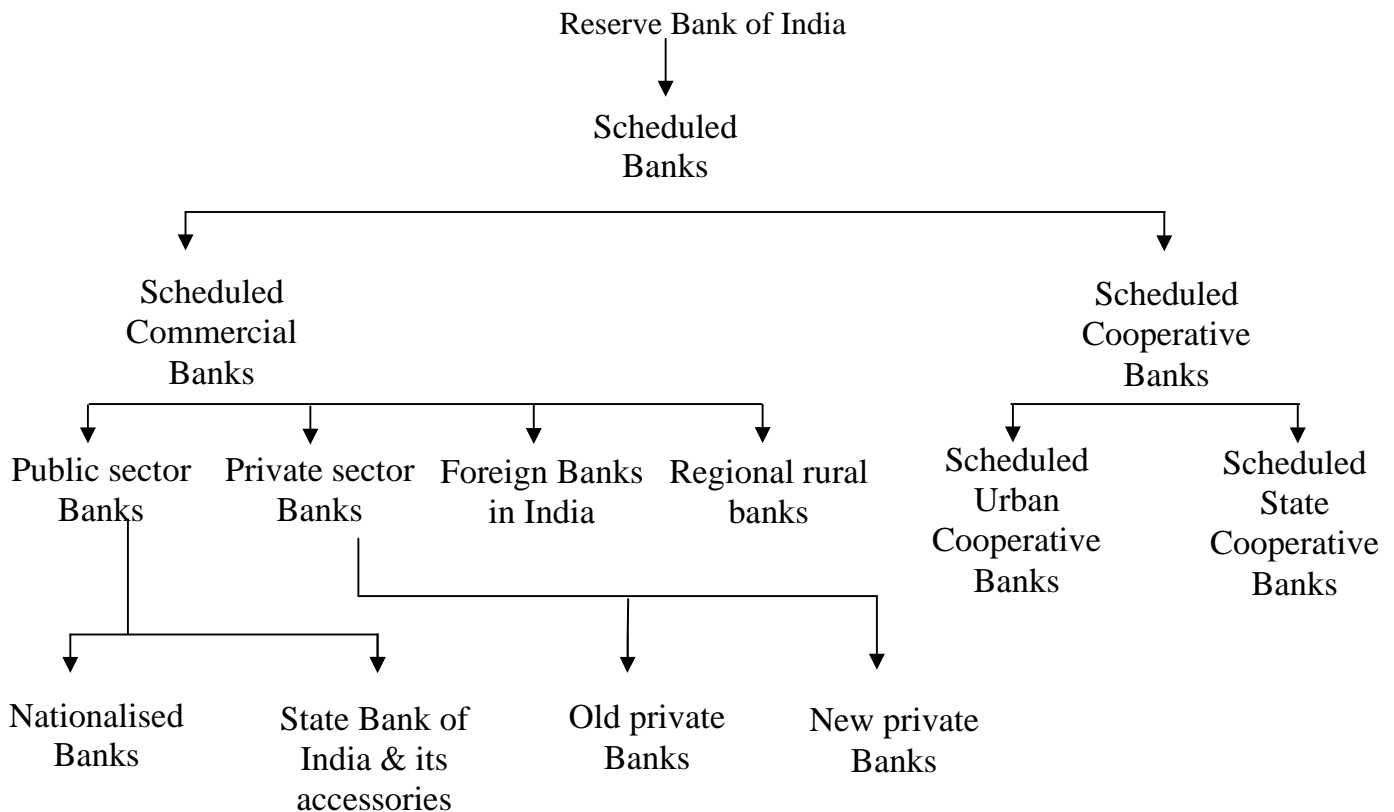
13.3   Progress of banking in India since 1969 :

The Indian banking system had gone through a series of crisis and consequent bank failures and hence its growth was slow during first half previous. But after independence, the Indian banking system has recorded rapid progress. This was due to planned economic growth, increase in money supply, growth of banking habit, control and guidance by the RBI and above all nationalisation of banks in July 1969.

In 1950-51, there were 430 commercial banks but this number declined rapidly due to RBI's policy of mergers and amalgamations of small banks with big banks as a measure of strengthening the banking system. In 1960-61, there were as many as 256 small non- scheduled commercial banks but in 1980-81 there were only 4 such banks. The rest were merged with bigger banks or had become large banks themselves. There were 291 reporting scheduled commercial banks in the country during 2002-2003.

13.3.1 Nationalisation of Banks :

The nationalisation of 14 major banks with deposits of Rs. 50 crores or more in July 1969, was a historic event in the history of India.

Previously commercial banking system did not play proper role in the planned development of the nation. It was controlled by industrialists and business magnets who had used public funds to build up private industrial empires. Small industrial and business units were continuously ignored and starved of funds. Agricultural credit was not seriously considered by banks. The public funds were used to support anti-social and illegal activities against the interests of the public. Thus, these reasons forced the government to take over 14 top commercial banks in July 1969 and in 1980 another 6 commercial banks were nationalised. In addition, the State Bank of India and its associate banks called State Bank of India group were taken over in 1955.

13.3.2 Branch Expansion :

Initially, the banks were conservative and opened branches mainly in major cities. After nationalisation of commercial banks and introduction of Lead Bank scheme, branch expansion gained momentum. After nationalisation, there was over 800 percent increase in number of branches, but the most spectacular progress was in rural branches i.e., increase was from about 1860 to nearly 32,270 bank branches. With the progress of branch expansion, the national average of population per bank office has declined from 64,000 to 15,000. A rural branch office frequently serves 15 to 25 villages with in a radius of 16 kms. Some banks have started mobile offices and satellite offices.

The massive branch banking shows the magnitude of the problem before the commercial banking system – at present only about 32,270 villages out of 5 lakh villages are directly covered by commercial banks. Expansion of bank facilities in rural and backward areas and provision of bank credit to farmers and rural artisans and in most cases at concessional rates of interest, these have contributed to low profitability of public sector banks.

13.3.3 Deposit Mobilisation :

Expansion of deposits has been an important feature in recent years. Planned economic development, deficit financing and increase in currency issue have led to increase in bank deposits. Bank nationalisation gave a great step to deposit mobilisation due to expansion of a network of bank branches and partly to the incentives given to savers.

Growth of deposits in India all scheduled commercial banks was as follows:

1951-1971 (20 years) – 700% or 7 times
1971-1991 (20 years) – 3,260% or 32.6 times
1991-2004 (12 years) – 780% or 7.8 times

The most rapid deposit expansion was during 1971-91 (32 times). In general there has been regular and continuous rise in bank deposit indicating clearly that banking habit is growing in India and more and more people are keeping their cash with banks.

Even then, there are now 5 lakh villages waiting for banking services.

Factors for rapid deposit growth :

There are many factors which have influenced deposit mobilisation and deposit multiplication in India specially after bank nationalisation .-

(a) **Rapid branch expansion :**   Banking services have almost been taken to the door of the people both in rural and urban areas. Besides, they have encouraged the lower and middle income groups save and deposit their savings, with banks through various innovative saving schemes.

(b) **Increase in the amount of cash with the banking system :** Due to governments' policy of deficit financing and creation of new money, the larger the cash reserves with the banking system, the larger the credit they can give and larger the deposits they can multiply.

(c) **The ratio of cash reserves to deposits :** The smaller the cash-reserve ratio, the greater is the scope for lending by banks, multiplication of loans leads to multiplication of deposits. As Cash Reserve Ratio (CRR) and Statutory Liquidity Ratio (SLR) were quite low, banks were able to register a high rate of deposit growth. In course of time, when CRR and SLR were raised to 15 percent and 38.5 percent (maximum) respectively, banks were forced to restrict their lending and accordingly restrict deposit multiplication.

Since 1992, with the implementation of Narasimham Committee both CRR and SLR were gradually reduced by RBI. This has led to more cash reserves with the banking system stimulated bank credit and bank deposits.

(d) **Favourable business conditions in the country :** Under the impact of planning, all sectors of the economy were expanding. Expansion of these sectors was helped by expansion of bank funds. At the same time expansion of banking sector was also brought about by the growth of other sectors of the economy.

(e) **High rates of Interests :** The monetary authorities have rised the rates of interests continuously on bank deposits which encouraged the expansion of bank deposits. But recently commercial banks have been facing. competition from mutual funds, housing banks & investment companies etc., to mobilize the savings of the house holds by offering high interest rates.

13.3.4 Expansion of Bank Credit :
The expansion of bank deposits as well as the expansion of bank credit has been reflecting the rapid expansion of industrial & agricultural output. The banks are also meeting the credit requirements of industry, trade & agriculture on a large scale than before. Since 1969, just as bank deposits, bank credit too has expanded enormously from about Rs. 4,700 crores in 1970-71 to Rs. 8,35,380 crores during 2003-2004.

13.3.5 Development – oriented Banking :

The concept of banking has widened from mere acceptance of deposits and loaning of funds to development – oriented banking. Banks are increasingly catering to the needs of industrial and agricultural sector. From short term financing, banks have gradually shifting to medium and even long-term leading.

The new development since nationalisation, is the adoption of lead bank scheme under this scheme all districts of the country are allotted to some bank or the other. The lead bank of a district is engaged in :-

(a)   Opening bank offices is all the important localities.
(b)   Providing maximum credit facilities for development in the district and
(c)   Mobilising the savings of the people in the district.

The performance of the lead bank should be judged not only by the number of branches opened by them but also by the number of projects helped by them for improving productivity, creating employment opportunities which are expected to become catalysts of development of the district.

13.3.6 Priority sector lending of banks :

Before 1969, commercial banks had largely neglected agriculture on the ground that the rural credit was to be undertaken by co-operative credit societies and banks. Soon after nationalisation, the commercial banks were asked to be specially concerned with the financing of priority sector of agriculture, small industry and business and small transport operators.

In 1980, RBI issued certain directives to the banks regarding priority sector lending an expected their co-operation and compliance :

(1)   Priority sector advances should constitute 40 percent of aggregate bank credit.
(2)   Out of priority sector advances, at least 40 percent should be provided to agriculture.
(3)   Direct advances to the weaker sections in agriculture and allied activities in rural areas should form at least 50 percent of direct lending to agriculture.
(4)   Bank credit to rural artisans and village craftsman and cottage industries should at least be 12.5 percent of the total advances to small scale industries.
(5)   About 12 percent of bank credit should go to exports.

The total credit extended by the public sector banks to agriculture, small-scale industries and other priority sectors went up from Rs. 440 crores in June 1969 to 2,63,830 crores in March 2004. As a result, advances to priority sector as percentage of total credit increased from 15 percent in June 1969 to 43 percent in March 2002, and declined to 34 percent in 2003-04. The rate of progress was quite rapid soon after nationalisation but later progress was more modest. The relatively slow progress of advances to priority sector was due to the fact that the bank officials were not imbued with new objective of banking. And at the same time, banks were worried about the unsatisfactory recovery performance of agricultural and small sectors.

13.3.7 Innovation in Banking :

In course of time, the commercial banks have found that traditional lending operations have not been bringing adequate profits. This is due to narrow lending margins, regulated interest rates, loan defaults and rescheduling. Some of leading banks in India have been trying to diversify their business in such areas as merchant banking, leasing, mutual funds, housing finance, consumer credit and credit cards etc. Such diversification of business caused blurring of boundaries between money, capital and banking markets.

The process of liberalisation of industrial licensing leads to expansion, diversification and modernisation of industrial units. These industrial units have been tapping a large quantum of funds from the public savings by offering company deposits, convertible and non- convertible debentures etc. And these companies are offering higher rates of return than what commercial banks can de.

The public sector undertakings have also resorted to capital markets for raising funds as the budget allocations to them are stopped. This process of disintermediation has adversely affected both deposit growth of banks and demand for bank credit. Responding to these changes, there is growthing trend towards universal banking. Banks have been diversifying their activities to improve customer satisfaction.

13.3.7.a Merchant Banking :

Commercial banks have now set up merchant banking divisions and are underwriting new issues. Formerly banks provided merchant banking services only to a few known companies. But now, they have setup separate subsidiaries and offer wider services to a large. Now, there are eight commercial banks which have set up equipment leasing and merchant banking subsidiaries.

13.3.7.b Mutual Funds :

Mutual Funds are either year ended or close-ended financial intermediaries which obtain their resources by selling units or shares. They enable small investors to obtain high return – low risk. They are either income-oriented or growth-oriented or income and growth oriented funds and after many other financial services such as insurance, share exchange, housing and bank loans etc to their investors.

Till 1986, UTI had a monopoly of Mutual funds business in India. Now many other mutual funds have come up in the market. In the banking sector, mutual funds have been set up by the merchant banking subsidiaries of some public sector banks such as, State Bank of India, Canara Bank, Punjab National Bank, Bank of India, Indian Bank. LIC and GIC also have set up mutual funds. Besides private sector mutual funds have also come up.

13.3.6.c Retail Banking :

Commercial banks in India are taking up retail banking as an attractive market segment for growth and for profit. If refers to housing loans, consumption loans for purchase of loans.

The loan values may vary's between Rs. 20,000 to Rs 1crore which are generally for a duration of 5 to 7 years; and housing loan may for a period of 15 years.

13.3.7.d Venture Capital :

Venture Capital Fund (VCF) is a new type of financial intermediary which has emerged in late 1980's. Venture Capital Funds are institutional investors which provide risk capital and management and marketing expertise to highly risky and new private business particularly in technology –oriented or knowledge intensive industries. Venture Capital is a high risk-high return business.

In the banking sector, Grindley's Bank have setup India's first private sector Venture Capital Fund, namely, India Investment Fund. Among the Indian Banks, the subsidiaries of State Bank of India and Canara Bank have floated Venture Capital Funds.
In India the following VCF's are operating.

Technology Development and information company of India Ltd (TDICI), Risk capital & Technology finance cooperation Ltd (RCTFC), credit capital venture fund (India) Ltd, (CCVF) and venture capital funds set up by IDBI, UTI, and commercial banks.

13.3.6.e Factoring service :

Factor is a financial institution which manages the collection of accounts receivables of the business firms and bears the credit risk associated with those accounts. Factoring service implies the advance payments of credit by the bank to customer. It is to be collected later on from the debtor. The bank charges commission for this service. The first factoring service in India has been started by the State Bank on India, namely, the SBI Commercial and Factoring Service Ltd. In India SBI and Canara Bank are only the two banks which have been offering this service.

13.3.6.f Off-Share Banking :

Now many banks have an international dimension in the form of off-share or overseas banking. The operation of off-share banking is of international business in which banks and management groups in many countries participate. These branches are spread over 25 countries and specialisation in various areas of international banking including financing of foreign trade.

13.3.6.g Hire – purchase credit :

Hire purchase means purchase of goods on the basis of instalments. Hire purchase credit or instalment credit refers to term loans provided for the purchase of consumer goods, services and some times producer goods. These loans are repaid in instalments during the specified period. In India, hire purchase finance is provided by retail and wholesale traders, specialised hire-purchase finance companies, commercial banks and financial institutions. Bulk of hire purchase credit goes to road transport industry for the purchase of vehicles and their spare-parts.

13.3.6.h Internet Banking :

Economic integration, deregulation, advances in telecommunication and the growth of internet and wireless technologies are changing the face of financial services. In India, internet banking is in rudimentary stage. In order to promote safety and soundness of e-banking activities, the RBI constituted a working group on Internet banking. The group examined different aspects of internet banking from regulations and supervisory perspective and recommended appropriate standards for adoption in India. RBI has issued guidelines to the banks on internet banking covering –

(a)   The risk associated with internet banking
(b)   The technology and security standards for internet banking
(c)   Legal issues relating to this new type of activity
(d)   The regulatory and supervisory concerns of RBI

13.3.6.h Electronic Banking :

To cut down costs there are two courses open to banks :-
(1)   Mergers/amalgamations
(2)   Electronic banking.

Foreign banks are much ahead in introducing electronic banking. Banks are under the pressure to offer today, what customers would be expecting tomorrow. Today, banks offer the customer a choice to conduct his business across the country, over phone or via a computer. The Rangarajan Committee (1988) report is the first step for the introduction of computers. The Saraf Committee (1994) on technology issues relating to payments, cheques clearing and securities settlements made several recommendations to improve the quality of service. Although several steps, have been taken by the Indian banking system, it still lags behind system of developed country.

The banking services to a customer at his office or home by using electronic technology may be called electronic banking. The increased use of electronic technology to meet the competition in banking is transfer of banking from within four walls to electronic banking. It is any where and any time banking– 24 hours in a day, 7 days a week.

The electronic banking started with the introduction of computers and ATM (1970's). The next step was telephone banking (1980's) and now Internet Banking. The introduction of credit cards, ATM, Retail Electronic Funds transfer (EFT) and Electronic clearing services (ECS) have all helped in developing an effective, efficient and speedy payment and settlement systems. Internet banking is slowly becoming popular in India.

A.T.M :- ATM means automated teller machine. This is designed to problem the most important function of bank i.e., provision of cash facilities. ATMs are established in important places by a bank in cities and important towns. ATM usage in India is growing at 300 percent and still the

ATM density in relation to population stands at a mere 4 ATMs per million population as against 60 for China, 731 for USA and 1132 for Japan.

Credit Card/ Debit Card :

The credit card holder is empowered to spend whereever and whenever he wants with his credit card within limits fixed by his bank. Credit card is a post paid card.

On the other hand, debit credit is prepaid card with some stored value. Every time a person uses this card, the business house gets money transferred to its account from the bank of the buyer. The buyers account is debited with the exact amount of purchases. The customer can not spend more than the stored value because the system rejects any transaction which exceeds the balance in his account. The bank never faces a default because the amount spent is debited immediately from the customers account.

Smart Card :

Banks are adding chips to their current magnetic stripe cards to enhance security and offer new service, called smart cards. Smart cards are highly secure, more reliable and perform multiple functions. They hold a large amount of personal information, from medical and health history to personal banking and personal performance.

13.4 Banking Sector Reforms –Narasimham Committee

Indian banking system showed rapid progress in the post-nationalisation period. It has extended its geographical spread and functional reach. The total number of branches which were 8262 in June 1969 have increased to 60,220 by 1991. In diversification of its functions banks were able to participate in various schemes such as poverty alleviation and employment generation schemes. On the contrary, there had been a decline in productivity of banking and efficiency and erosion of profitability of banking sectors. Several public sector banks and financial institutions had become weak financially and some had been incurring losses year after year. Their customers services was poor, their work technology was out dated and they were unable to meet the challenges of a competitive environment.

Under these circumstance, government has set up a committee with Mr. M. Narasimham, a former governor of RBI as chairman. The committee examined all the matters relating to structure, organisation, functions and procedures of the financial system. The committee submitted its report on financial system in November 1991.

The committee was primarily interested in improving the health of the public sector banks and financial institutions. It said "The solvency, health and efficiency of the institutions should be the central effective financial reform".

Recommendations : The recommendations of the committee can be grouped under three heads:

(1)   Relating to Commercial Banks

(2)   Relating to Financial Institutions
(3)   Relating to money and capital markets

Banking sector reforms :

The committee opened that the following are the reasons for deterioration of the health of public sector banks :-

(1)   Directed investment
(2)   Direct Credit
(3)   Mounting expenditure

The committee recommended :

1.   **The statutory liquidity Ratio (SLR) :** SLR should be reduced from 38.5 percent of total net demand and time liabilities to 25 percent in next 5 years. The reductions in SLR increases the funds with banks extending loans to agriculture and industries.

The cash reserve ratio (CRR) : CRR should be reduced from 15 to 3 percent. This leads to reduce the idle, money of banks kept with RBI and utilise, the amount for productive purposes.

2.   **Directed Credit Programme :** The committee redefined the priority sectors to include worker sections of the community weaker such as marginal farmers, rural artisans, village and college industries and dairy sector etc. The directed credit should be fixed at 10a5 of bank credit.

3.   **Structure of Interest Rates :** The level and structure of interest rates in the country should be broadly determined by market forces. All controls on interest rates of lending and deposit of banks and on debentures and company deposits should be removed.

4.   **On Structural Reorgnisation of the Banking Sector :** The committee opined that a substantial reduction in the number of public sector banks through mergers and acquisitions. According to recommendation of the committee, the pattern consists of :-

(a)   3 or 4 large banks including SBI of international character
(b)   8 to 10 national banks with a network of branches throughout the country
(c)   Local banks whose operations are confined to specific region and
(d)   Rural banks including RRBs whose operations are confined to rural areas.
(e)   There would be no more nationalisation of banks

5.   **Setting Up of Asset Reconstruction Fund :** The setting up of asset reconstruction fund(ARF) to take over a portion of the bad and doubtful debts at a discount from nationalised banks and financial institutions. This arrangement helps the banks to remove bad and doubtful debts from their balance sheet and recycle the funds realised into more productive uses.

6. **Remove the Duality of Control :** The present system of dual control over the banking system by RBI and the banking division of the ministry of finance should be ended, and RBI should be the primary agency for the regulation of the banking system.

Free and Autonomous Banks : The public sector banks should be free and autonomous. RBI should examine all the guidelines and directions issued to the banking system in the context of independence and autonomy of banks.

13.5   Reforms of the Banking Sector – Implementation of Recommendation of Narasimham Committee. Even though there is a great opposition from bank unions and political parties in the country, the government of India accepted all the major recommendations of Narasimham Committee and started implementing them :-

1.   Statutory Liquidity Ratio (SLR) :

The government announced during 1992-1994 its decision to reduce SLR over a three-year period. In October 1997, the SLR was reduced from 38.5 to 25 percent. This was minimum stipulated under section 24 of banking regulation act, 1949.

2.   Cash Reserve Ratio (CRR) :

RBI could not reduce CRR immediately. When conditions eased and money growth started slowing down since 1995-96, CRR was reduced gradually from 15 percent to 5.5 percent in December, 2001.

3.   Interest Rate Policy :

The banks will have the freedom to set their own interest rates. The purpose of deregulation of interest rates was to stimulate healthy competition among banks and encourage their operational efficiency.

4.   Prudential norms :

Prudential norms were laid down by RBI as part of the reformative process. The purpose of prudential system of recognisation of income, classification of assets and provisioning of bad debts. Banks have to follow international accounting standards relating to these areas.

5.   Capital adequacy norms :

Minimum capital standards for banks were prescribed in accordance with the internationally accepted "Basle Committee Norms". By the end of March 1996, all public sector banks have attained capital to risk weighted assets ratio of 8 percent.8 percent norms was also attained by foreign banks in India and of some Indian private sector banks.

The prudential guidelines and the new capital adequacy norms the commercial banks to make a larger provision of over Rs. 14000 crores for bad and doubtful debts. The resulting loss would erode already inadequate capital base of the banks. The government had to come to a

rescue of banks by making contribution to the capital. A new capital frame work has been introduced for Indian Banks based on the Basle Committee recommendations presenting two tiers of capital.

(a) Tier – I which is considered the most permanent and readily available support against unexpected losses, include paid up capital, statutory reserves, share premium and capital reserves.

(b) Tier – II capital consists of undisclosed reserves, fully paid up cumulative preference shares, revaluation reserves, general provisions and loss reserves etc. It was decided that Tier – II capital shall not be more than 100% of Tier I capital

6. Recovery of Debts :

The government of India passed recovery of debts due to banks and Financial Institutions Act 1993 in order to facilitate speedy recovery of debts. Special recovery tribunals have been setup. The scheme of one time settlement and "Securitisation Act" will help speedy recovery of loans.

7. Access to Capital Market :

The government of India amended the banking companies (Acquisition and Transfer of undertakings) Act to enable nationalised banks to approach capital market through public issue. The stock of government shall not fall below 51% of the paid up capital. The SBI was first to raise capital through public issue over Rs.1400 crores as equity and 1000 crores as bonds. Other nationalised banks have also approach or planning to approach the capital market.

Freedom of Operation :

Scheduled commercial banks have been given freedom to open new branches and upgrade extension counters. They are also permitted to close non-profitable branches other than in rural areas. Banks have the freedom to rationalise their existing branch network by reallocating branches, opening of specialised branches, spinning off business, setting up of controlling administrative ruling etc.

New Private Banks :

The new private sector banks are allowed to raise capital contribution from foreign institutional investors up to 20% and from Non Resident Indians (NRIs) up to 40%.

Local Area Banks :

The government of India announced the setting up of new private local area banks with jurisdiction over three contiguous districts. These banks will help in mobilising rural saving and in channeling them into investment in local areas.

Supervision of Commercial Banks :

After security scam of 1992, RBI tightened the supervision of commercial banks to strengthen the supervisory system. RBI has setup a Board of Financial Supervision with an Advisory council under the chairmanship of governor. In 1993 RBI has also established a new department known as department of supervision. To supervise commercial banks and to assist the board of financial supervision.

The aim of these reforms is to provide commercial orientation to the commercial banks for which they must satisfy the following objectives.

1.   Show better returns on the savings of the investors.
2.   Adopt strategies to generate additional revenues.
3.   Reduce the financial risks by creating new services.
4.   Improve income to cost ratios and increase operational efficiency.
5.   Attend seriously to the problems of low profitability and high and growing non-performing assets.

13.6 SUMMARY

1. Structure of Financial System. The financial system of India refers to the system of borrowing and lending of trends of all individuals, institutions, companies and of the government.

2. Composition of Indian Banking System. The organised banking system in India can be broadly devided into three categories i.e., central bank of the country known as RBI, the commercial banks and co-operative banks.

3. Schedule Banks and Non-scheduled Banks. The Scheduled Banks are those which are entered in the second schedule of RBI Act, 1934. Non-schedule banks are those which have not been included in the second scheduled of RBI Act, 1934.

4. Progress of Banking in India since 1969.

   In 1960-61 there were as many as 256 small non-scheduled commercial banks but in 1980-81 then were only 4 such banks. The rest were merged with bigger banks. There were 291 reporting. Scheduled Commercial banks in the country during 2002-2003.

5. Nationalisation of Banks. The nationalisation of 14 major banks with deposits of Rs.50 crores in july,1969, was a historic event in the history of India.

   After nationalisation there was a rapid expansion of branches, deposits, credit took place in the economy – other areas of development – development oriented banking, priority sector lending, innovation in banking, merchant banking, mutual funds, retail banking, venture capital,

factoring service, off-share banking, hire purchase credit, internet banking, electronic banking, A.T.M., credit card, debit card, smart card.

6. Banking sector reforms – Narasimham Committee.
    Several public sector banks and financial institutions had become weak financially and some had been incurring losses year after year. Their customers services was poor, their work technology was outdated and they were unable to meet the challenges of a competitive environment.

    Under these circumstances government, set up a committee with Mr.M.Narasimham, a former governor of RBI as Chairman. The Committee submitted its report on financial system in November, 1991.

    Recommendations – Banking sector, Financial institutes and Money and Capital Markets.

13.7 SELF ASSESSMENT QUESTIONS

1. Explain the composition and progress of Indian Banking System since 1969.
2. Review the performance of Commercial Banks in India after nationalisation.
3. Explain the concepts and recent trends of commercial banks in India.
4. Write about the banking sector reforms in India.

13.8 REFERENCES

1. Banking and Financial System – AVR Chary, P.R.Paul.
2. Indian Economy – Ruddar Dutt & K.P.M.Sundaram.
3. Banking theory and law and practice – SN.Maheswari and R.R.Paul.
4. Modern Economics – H.L.Ahuja.

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LESSON 14

DEPOSIT INSURANCE CORPORATION

14.0 AIMS AND OBJECTIVES:

The main objective of this lesson is to make students understand Deposit Insurance Corporation, Credit Guarantee Schemes, Deposit Insurance and Credit Guarantee Corporation of India (DICGC)

STRUCTURE

14.1   Introduction
14.2   Capital
14.3   Management
14.4   Insurance facilities
14.5   Credit Guarantee Schemes
      14.5.1   Credit Guarantee Scheme for Small Industries
      14.5.2   Credit Guarantee Corporation of India
14.6   Deposit Insurance and Credit Guarantee Corporation Of India (DICGC)
      14.6.1 Deposit Insurance
      14.6.2 Credit Guarantee
      14.6.3 Credit guarantee for small scale industries
      14.6.4 Credit Guarantee for Co-operative
14.7 SUMMARY
14.8 SELF ASSESSEMENT QUESTIONS
14.9 REFERENCES

14.1   Introduction :

Bank failure has serious consequences for the depositors and adversely affects the development of the banking systems. It destroys the savings of the depositors, shatters, the confidence of the public in banking system and generates deflationary tendencies in the economy. Deposit insurance is necessary for the sound efficient working of the banking system. It inspires confidence among the depositors and prevents panicky withdrawals from the banks. The failure of the Pilani Central Bank and Luxmi Bank in 1960 gave a shock to the public confidence in the banking system of the country. With a view to provide protection to the small depositors, the Deposit Insurance Corporation was established in 1962.

14.2   Capital: The Deposit Insurance Corporation has authorized and paid-up capital of Rs. 2 crore. The whole amount has been subscribed by the Reserve Bank. Moreover, the Corporation can also borrow from the Reserve Bank up to a maximum of Rs.5 crore

14.3   Management: Management of the Corporation is under the control of a Board of Directors consisting of five members that is, the governer of the Reserve Bank as the Chairman,

a Deputy Governer of the Reserve Bank, an Officer of the Central Bank and two directors nominated by the Central Government in consultation with the Reserve Bank. The Board of Directors supervises the functioning of the corporation.

14.4   Insurance facilities: All the commercial banks in the country which come under the provision of the banking companies act of 1949 are registered as Insured Banks. The corporation does not cover the deposits of the Government and Banking Companies. The amount of insurance cover which was initially restricted at Rs. 1500 per depositor has been progressively increased to Rs.20000 per depositor since July 1976. The insured banks are required to pay a premium of 4 paise per annum for every 100 Rs of their deposits.

14.5   Credit Guarantee Schemes:
The main reason for reluctance to banks to provide finance to the small borrowers has been the high degree of risk involved in lending them. Some institutional arrangements are, therefore, needed to cover the credit risks of the lending agencies. The basic principle underline the institutional risk coverage is the principle of insurance of pooling individual risks according to which the statistical law of large numbers considerably reduces the credit risk per unit of credit. In India two credit schemes have been operating.

14.5.1 Credit Guarantee Scheme for Small Industries: In July 1960, the Government of India, in consultation with the Reserve Bank of India, started a credit Guarantee Scheme for Small Scale Industries. The objective of the scheme was to encourage institutional lending institutions against possible losses with respect of such loans. The Reserve Bank has been entrusted with the task of administering the scheme as the agent of Government of India and has been designated as the "Guarantee Organizations" for this purpose. Under this scheme guarantee is provided to the loans extended to the small scale industrial units engaged in (a) manufacture processing or preservation of goods (b) mining and quarrying (c) servicing and repairing of certain types of machinery and (d) custom service units. The scope and the provisions of the scheme have been liberalized from time to time.

14.5.2 Credit Guarantee Corporation of India: In order to encourage the banks to provide credit to the small borrowers on a large scale without excessive risks, the Credit Guarantee Corporation Of India was established in January 1971. The main objective Corporation as to provide guarantee cover to the banks in respect of loans granted to the small borrowers like small transport operators, traders, artisans, self- employed persons, small business formers etc.

14.6 Deposit Insurance and Credit Guarantee Corporation Of India (DICGC):

In July 1978, the credit Guarantee Corporation of India was merged with the deposit Insurance Corporation. The new institution has been renamed as the Deposit Insurance and Credit Guarantee Corporation of India. The new corporation has to serve two objectives. (a) to provide insurance protection to small depositors and (b) to provide credit guarantee to the banks for loans extended small borrowers.

14.6.1 Deposit Insurance: the corporation provides insurance, to the commercial banks, regional rural banks and co-operative banks. It charges a premium of 4 paise per annum for

every 100 rupees of deposits and has fixed the amount of insurance cover at Rs. 30000 per depositor. Total deposits ensured amounted to Rs.101682 crore at the end of the June 1989.

14.6.2 Credit Guarantee: the corporation is operating three types of credit guarantee schemes (1971): (a) small loans guarantee scheme (1971); (b) small loans (financial corporation) guarantee scheme and (c) service co-operative societies guarantee (1971). The facility of credit guarantee is available to the commercial banks, regional rural banks, co-operative credit institution and financial corporations. Advances to formers, agriculturists account for about 41% of the guarantee cover and advances to transport operators and retail traders' accounts for about 12% and 13% of the cover respectively. the corporation provided the guarantee to total advances of Rs.25566 crores by the end of march 1999 under the above mentioned 3 schemes.

14.6.3 Credit guarantee for small scale industries: In March, 1981, the Government of India closed its credit scheme for small scale industries and the DIGGO started the small loans (small scale industry) guarantee scheme,. The objective of this scheme was to extend guarantee cover for the loans granted to small-scale industries. The scheme is available to all commercial banks, regional rural banks, state financial corporations' etc., and the participation in the scheme is voluntary. At the end of March 1999 advances guaranteed under this scheme amounted to Rs.14094 creores.

14.6.4 Credit Guarantee for Co-operative: In July 1984, the DICGC introduced small loans (co-operative banks) guarantee scheme with a view to extend the facility of guarantee cover to primary (urban) co-operative banks in respect of their loans granted to transport operators, retail traders, small business and professionals self-employed persons. The advances guaranteed under this scheme by the end of March 1989 amounted to Rs. 21 crores.

14.7 SUMMARY :

Deposit Insurance Corporation was established in the year 1962 with its paid up capital of Rs. 2 crores. The management of the corporation is under control of a Board of Directors consisting of five members. The insured banks are required to pay a premium of 4 paise per annum for every Rs. 100 of their deposits. In India, two credit schemes, namely, credit guarantee scheme for Small Industries and Credit Guarantee Corporation of India was merged with deposit Insurance Corporation in 1978 and renamed as Deposit Insurance and Credit Guarantee Corporation of India.

14.7   SELF ASSESSMENT QUESTIONS
1.   Write a brief note on Deposit Insurance and Credit Guarantee Corporation of India.
2.   Explain the Insurance facilities provided by Deposit Insurance Corporation.

14.9 REFERENCES:
1.   Macro Economics   -   Edward Shapiro
2.   Banking Theory and Law
& Practice   -   S.N. Maheswari & P.R. Paul

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LESSON 15

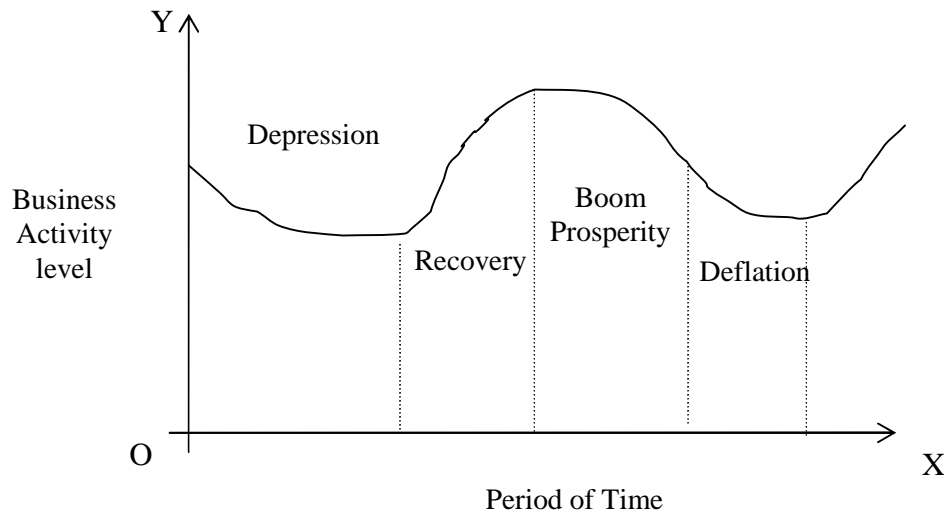# BUSINESS CYCLES

15.0 AIMS & OBJECTIVES:

The main aim of this lesson is to make to students to learn Introduction of Business Cycles, faces of Business Cycles, such as depression, recovery, prosperity, Boom, recession, causes and consequences of Business Cycles.

STRUCTURE

15.1   Introduction

15.2   Phases of Business Cycles

    15.2.1 Depression

    15.2.2 Recovery

    15.2.3 Prosperity

    15.2.4 Boom

    15.2.5 Recession

15.3 Causes for Business Cycle

15.4 Consequences of Business Cycle

15.5 Summary

15.6 Self Assessment Questions

15.7 References

15.1 Introduction

A business cycle is a short-term picture of the behaviour of real output in a private enterprise economy. Industrialised economies having free-market mechanism got speedy economic growth over the long period. But the process of economic growth is often shaken by business cycle which show up-turn and down-turn of income, output and employment. A business cycle can be shown to be a wave- like path of the economy's real output as shown in the diagram given below.

15.2 Phases of Business Cycle :

Economists often describe a business cycle with the help of the distinct phases or stages. These have been demareated in the following diagram.

Period of Time

We can describe the four phases of a typical trade cycle as follows.

Business cycles are said to pass through five different stages or phases: depression, recovery. Prosperity, boom and recession.

DEPRESSION :

Depression is a prolonged period when the overall business activity in a country is for less than the normal. It is the first stage of the business cycle. It has the following features:

1. a sharp reduction in production
2. large-scale unemployment
3. low wages
4. contraction of credit
5. a high rate of business failures
6. an atmosphere of pessimism all over

During the period of depression, the levels of   production keep declining. Consequently, the volume of   employment also gets contracted. Capital goods Industries, such as tractors, come to a virtually complete standstill; compared to capital goods industries, consumer good industries, such as food and clothing, are relatively less affected by unemployment. Prices of finished goods tend to fall though manufacturing costs do not change even one bit. Consequently, every manufacturing activity ends up in substantial   losses. If the period of depression continues for long time losses get   accumulated and there is no alternative for most firms other than closing down. There could be frustration sales resulting in a fall in prices lower than the cost prices. During this period, farmers selling their produce at throw away prices is a common   sight.   Generally, the government announces minimum   support prices to save the farmers.

2.   Recovery:

A slight increase in economic activity after the lowest point of the depression is called recovery. The economic situation appears to be relatively better than in the earlier period. The features of recovery are:

1. There will be a slight improvement in economic activity
2. The volume of industrial production increases slowly and cones- quently the volume of employment also increases
3. prices tend to rise slowly, and this leads to a marginal increase in profits
4. wages also rise marginally. Though not in the same proportion as the prices
5. when prices increase, profits rise marginally,   investors tend to get lured by the profits and make fresh investments in capital good industries, banks also come forward and the volume of credit expands. Inventories also move up gradually. Hope and the optimism replace pessimism and frustration prevalent during the period of depression.

Recovery is said to persist till the economic activity reaches more or less the level prevalent before the depression   phase. The rate of recovery and the severity of the preceding depression are closely related. The greater the severity of depression, the more likely to be the rate of recovery. The duration of the recovery period may be uncertain, that is, short or long, and is more determined by the forces that initiate recovery. Innovation, additional government expenditure, emerging production techniques and technologies,   additional investment in existing and new markets, exploitation of non-conventional sources of energy are some of the propelling factors that are capable of initiating recovery in a depressed economy.

Prosperity: The next phase of Business cycle is prosperity. The next stage of prosperity is identified by the following parameters:

1. increased production
2. heavy capital investment in basic industries
3. expansion of bank credit
4. high prices
5. high profits
6. large number of new business enterprises come up
7. full employment.
8. general feeling of optimism in business and industrial circles.
    The USA enjoyed the longest sustained period of prosperity between 1923 and 1929, with marginal interruptions in 1924.

4.   Boom: During boom conditions, business activity expands rapidly to new peaks in terms of commodity prices, high profits and full employment. Its features are:

1.   prosperity conditions of a business cycle pave the way for the emergence of boom.
2.   a constant flow of investments beyond the stage of full employment leads to a spirit in the rate of inflation.

3. a feeling of undue optimism develops all around and, consequently, additional investments keep flowing in different various sectors of the economy.
4. the factors of production, already employed to the fullest extent, register a sharp rise in prices. The number of jobs available exceed the number of workers in a given market resulting in overfull employment.
5. profits touch a new peak drawing the attention of all investors, business magnets and industrialists. Additional capital investments start flowing in.
6. the economy is not in a position to digest the additional investments, inflationary tendencies seem to surface and gradually grow to an alarming level. This is manifested in sky rocketing prices.
7. there is an atmosphere of over-optimism all around.

Boom conditions may not continue for a long period. They may even portend recession. As the demand for the factors of production increases, they are likely to become scarce. This leads to an increase in their prices upsetting the cost calculations of projects. New projects, promoted with the forecast of large revenues and lower costs may not survive at all. This results, a sense of caution develops in business circles. Further investments stop coming in unless business conditions are carefully evaluated. New projects are discouraged and expansion decisions are deferred. As a result, the boom phase goes bust giving way to recessionary tendencies.

5. Recession: Recession is characterized by over-pessimism in business circles, accompanied by fear and hesitation about the future trends in economy. The main characteristics are:

1. even the largest and most successful business houses are on alert, they slow down production. This is likely to crate panic among small and medium businessmen
2. as a caution, even financial institutions roll back their offers for fresh loans and may even insist on withdrawing of loans from business people.
3. Prices drop to a new low, business people become nervous, opting for cool exit rather than doing any business.
4. Many business units collapse. Demand for producers goods such as cement and bricks get affected as building and construction slow down.
5. Unemployment mounts, in basic and capita goods industries to begin with and may spread to other industries. As a result income, expenditure, prices and profits all fall.

Recession in one sector may affect other sectors in the economy resulting in depression once again. This completes one round of a business cycle.

Comparison of Different Phases of Business Cycles

The following table clearly indicates the comparison of different process of Business Cycles

Features	Prosperity	Recession	Depression	Recovery
Income, Output Employment, wages prices, Interest, Bank credit, MEC investments	High	Start Falling	Lowest	Start Rising
Aggregate Economic Activity	High	Start Falling	Lowest	Starts Rising
Business Psychology	Optimism	Doubtful and Fearful	Pessimism	Optimism begins

Causes for Business Cycles:

There are multiple factors, with varying degree of dominance over a period of time that cause a business cycle. The following are the causes of business cycles:

a). Changes in money supply: Higher the money supply, higher the prices and profits likely to be higher. Larger money quantities results in overall confidence, at least in the initial stages. Lower the money supply, lower the production, and larger is the unemployment. Recessionary tendencies set in.

b). Changes in bank credit: Expansion in bank credit may lead to higher volumes of production, full employment and an upswing in the economic trend. On the other hand, reduction in bank credit may force business people to shelve their expansion plans, reduce the volumes of production and retrench labour. This may lad to recessionary tendencies in the economy.

c). Over: investments in capital goods manufacturing industries: According to **Dr.Hayek,** excessive expansion in bank credit at artificially lowered rates of interest may lead to excessive investments in capital goods. When the goods so produced are not sold, stocks pile up, prices may fall, margins may erode and labour may lose jobs. All in all, pessimism will rule the industry.

d). Excessive or under-consumption: Excessive savings may not improve the standard of living of the people. In fact, they become more improverished due to low consumption levels. Under-consumption, according to **Major Douglas** and **J.A.Hobson,** is due to unequal distribution of income and wealth in the country.

e) *Waves of optimism and pessimism in business circles:* Each phase of the business cycle is characterished by varying degrees of optimism or pessimism among business people. During the boom period, for instance, there is an upswing and positive thinking in the business cycles. Everybody is optimistic about the business trends and this also attracts newcomers into business. On the other hand, there is pessimism during recession.

f) **Technological innovations:** Schumpeter explains a business cycle in terms of innovations that take place in capitalist economies from time to time. Innovations are not inventions. Invention is the discovery of some thing new and innovation a marginal change in the manufacturing methods and systems of an existing product or service. Innovations include development of new sources of raw materials for the existing business units, developing new types of raw materials, change in organization structures, development of new markets for the existing products and so on.

g) **Fluctuations in the marginal efficiency of capital:** The expected rate of return on investment is also called 'marginal efficiency of capital'. Keynes says that fluctuations in the rate of return on investment are capable of affections in the rate of return on investment are capable of affecting business cycles. Erosion of marginal efficiency of capital leads to crisis. A sudden collapse in the marginal efficiency of capital results in a sharp downtrend. When marginal efficiency of capital rises from its lower level, the upward trend sets in.

h) **Meteorological conditions:** Good crops are the result of good rain. They provide good money to farmers, a better standard of living and prosperity. On the other hand, poor rain leads to poor crops. Consequently, farmers end up in poverty. One of the olders theories of business cycle is based on meteorological conditions which is also called the sunspot theory. According to this theory, variations in the atmosphere of the sun, as evidenced in the frequency and magnitude of sunspots, determine the fluctuations in business activity. The growth of crops was attributed to the transmission of heat to the earth which was affected by certain dark spots appearing on the fact of the sun at definite intervals. The appearance of dark spots leads to crops failure and the entire economy prospers in the absence of dark spots.

i) **Disturbance factors:** Disturbance factors such as wars, revolutions and law and order problems are likely to reduce and even kill the tendencies of prosperity and push the economy into recession.

j) **Rate of growth in population:** The higher the growth rate of population, the lesser chances for tendencies of prosperity.

k) **Inventions (scientific break throughs):** Given a conducive financial environment and a large number of inventions, tendencies of prosperity are likely to reinforce the upswing in the economy.

l) **Discoveries of new lands and resources:** Markets can be expanded when new lands are discovered. Similarly when new resources are discovered, the present materials may become uneconomical or outdated. This leads to increased volumes of production of production of the goods with the help of new resources at minimum cost. The is likely to bring the economy out of recession phase.

m) **Artificial political climate:** Samuelson makes a very interesting observation about the political climate in an economy. He explains how ruling parties artificially create a favourable climate before elections. No political party dares to announce any type of

punitive measures such as power cut and increase in taxes if the elections are within sight. Once elections are over, they do not hesitate in announcing a string of such measures. In other words, political climate is 'made' to turn public opinion in their favour. Samuelson says politicians in power manipulate fiscal and monetary policies a year before lections in order to get relected. Later or sometimes immediately after the elections, they adopt stringent monetary and fiscal policies.

CONSEQUENCES OF THE BUSINESS CYCLE:

An economy under the influence of business cycle is likely to have evil consequences in terms of lower volume of employment, lower productivity and incomes, lower savings and a lower quality of life etc. It is necessary to understand the consequences of business cycles to prepare business organizations to plan their operations accordingly and minimize losses by taking suitable remedial measures. The following are the consequences of a business cycle:

(a)   Business activity is adversely affected, irrespective of the size of business units. Large business houses are marginally affected and small units may face closure.

(b)   There is an upswing in the economy during boom conditions. Demand rises, prices rise and, in the process, profits increase. There is all-round prosperity. A long period of boom may carry even seeds of depression.

(c)   With the onset of recessionary tendencies, large units cut production, unemployment surfaces and the propensity to consume declines. Small business units are the worst hit. They seldom have the ability to sustain low prices and low profits.

(d)   Expansion plans are shelved during recession.

15.5 SUMMARY :

A business cycle is a short-term picture of the behaviour of real output in a private enterprise economy. Industrialised economies having free-market mechanism got speedy economic growth over the long period. But the process of economic growth is often shaken by business cycle which show up-turn and down-turn of income, output and employment.

Business cycles are said to pass through five different stages or phases: depression, recovery. Prosperity, boom and recession. Depression is a prolonged period when the overall business activity in a country is for less than the normal.

Recovery :

A slight increase in economic activity after the lowest point of the depression is called recovery.

Prosperity: The next phase of Business cycle is prosperity. The next stage of prosperity is identified by the following parameters:

Increased production, heavy capital investment in basic industries, expansion of bank credit, high prices, high profits

Boom: During boom conditions, business activity expands rapidly to new peaks in terms of commodity prices, high profits and full employment.

Recession: Recession is characterized by over-pessimism in business circles, accompanied by fear and hesitation about the future trends in economy.

Causes for Business Cycles :

♦ Changes in Money Supply
♦ Changes in Bank Credit
♦ Over investments in capital goods manufacturing industries
♦ Excessive or under-consumption etc.

Consequences of Business Cycles :

Business activity is adversely affected, irrespective of the size of business units. A long period of boom may carry even seeds of depression. Expansion plans are shelved during recession.

15.6 SELF ASSESSMENT QUESTIONS :

1. What do you understand by Business Cycle ? What are its phase? Explain

2. What are the causes and consequences of business cycle ?

15.7 REFERENCES :

1)	Business Economics	-	A.R.. ARYASRI
			V.V. RAMANA MURTHY
2)	Macro Economics	-	ACKLAY GARDENER
3)	An outline of Money	-	G. CROWTHER
4)	Macro Economics	-	M.L. JHINGON

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LESSON 16

THEORIES OF BUSINESS CYCLES

Aims and Objectives :

In the previous lesson we have studied about the meaning, definitions and different stages of business cycles or trade cycles. The aim of this lesson is to study some important theories put forward by some economists namely Hawtrey, Keynes and J.R. Hicks who had explained the factors and circumstances that lie behind cyclical fluctuations. According to Hawtrey, the trade cycle is purely a monetary phenomenon. All activities are gone through with the help of money. Changes in the supply of money bring about changes in the levels of economic activities according to Hawtrey. According to Keynes theory, the changes in aggregate demand and aggregate supply are responsible for many stages in trade cycles. J.R. Hicks in his book "A contribution to the theory of trade cycles" builds his theory of trade cycles around the principle of the multiplier accelerator interaction. By these theories we can understand the causes for business cycles and can also suggest the remedial measurer.

STRUCTURE

16.1 Introduction to theories of trade cycles.

16.2 Monetary theory of trade cycle of Hawtrey's theory

16.3. Criticism of Hawtrey's theory

16.4. Keynes' theory

16.5. Criticism of Keyne's theory

16.6. Hicks Theory

16.7. Criticism of Hicks theory

16.8. Remedial measurer

16.9. Summary

16.10. Self Assessment Questions

16.11.References

16.1. Introduction :

A business cycles is associated with the fluctuations in economic activity, output, employment, prices, wages, interests, profits etc. A trade cycle develops in series of phases which for convenience may be called broadly expansion, Recession, contraction and Revival. There are several theories of trade cycles as told by different economists in different ways of approach. However, they can be broadly classified as two types. 1. Monetary theories and 2) Non – monetary theories. Monetary

theories look upon 'money' as a devil responsible for trade cycles. Where as non-monetary thoeires find some other reason to find some other reason. This lesson deals with the monetary theories given by R.G. Hawtrey, J.M. Keynes and J.R.Hicks. Let us study these theories one after an other.

16.2. Hawtrey's Monetary theory of trade cycle

According to Prof. R.g. Hawtrey "The trade cycle is a purely monetary phenomenon". It is changes in the flow of monetary demand on the part of business men that lead to prosperity and depression in the economy. He opines that non-monetary factors like strikes, floods, earthquakes, droughtss wars etc may at best cause a partial depression but not a general depression. Inactually, cyclical fluctuations are caused by expansion and contraction of bank credit, inturn, lead to variations in the flow of monetary demand on the part of procedures and traders. Bank credit is the principal means of payment in the present times. Credit is expanded or reduced by the banking system by lowering or raising the rate of interest or by purchasing or selling securities to merchants. This increases or decreases the flow of money in the economy and thus brings about prosperity or depression.

The expansion phase of the trade cycle starts when banks increase credit facilities. They are provided by reducing the lending rate of interest and by purchasing securities. These encourage borrowings on the part of merchants and producers. This is because they are very sensitive to changes in the rate of interest. So when credit becomes cheap, they borrow from banks in order to increase their stocks or inventories. For this, they place larger orders with producer, who in turn, employ more factors of production to meet the increasing demand. Consequently, money incomes of the owners of the factors of production increase, thereby increasing expenditure on goods. The merchants find their stocks being exhausted. They place more orders with producers. This leads to further increase in productive activity, in income, outlay, demand and a further depletion of stocks of merchants. According to Hawtrey." Increased activity means increased demand and increased demand means increased activity. Avicious circle is setput, a cumulative expansion of productive activity.

As the cumulative process of expansion continues, producers quote higher and higher prices. Higher prices induce traders to borrow more in order to hold still larger stocks of goods so as to earn more profits. Thus optimism encourages borrowing, borrowing increases sales and sales raise optimism.

According to Hawtrey, prosperity cannot continue limitlessly. It comes to an end when banks stop credit expansion. Banks refuse to lend further because their cash funds are deplected and the money in circulation is absorbed in the form of cash holdings by consumers. Another factors is the export of gold to other countries when imports exceed exports as a result of high prices of domestic goods. These factors force the banks to raise the business community to repay their loans. This starts the recessionry phase.

In order to repay bank loans, businessmen start selling their stocks. This sets the process of falling prices. They also cancel orders with producers. The latter curtail their productive activities due to fall in demand. This, inturn leads to reduction in the demand for factors of production. There is unemployment, Income fall. Unable to repay bank loans, some firms go into liquidation thus forcing banks to contract credit further. Thus the entire process becomes cumulative and the economy

is forced in a depression.

According to Hawtrey, the process of recovery is very slow and halting As depression continues, traders repay bank loans by selling their stocks at whatever prices they can. As a result, money with banks. Even though the bank rate is very low, there is "Credit dead lock" which prevents businessmen to borrow from banks due to pessimism in economic activity. This dead lock can be broken by following a cheap money policy by the central bank which will ultimately, bring about recovery in the economy.

16.3. Criticism of the Hawtrey's theory

Monetarists like Friedman have supported Hawtrey's theory. But majority of economists have criticised him for over – emphasing monetary factors to the neglect of non – monetary factors in explanning cyclical fluctuations. Some of the points of criticism are discussed below.

1. None can deny that expansion of credit leads to the expansion of business activity. Hawtrey believes that an expansion of credit leads to boom. This is not correct because the former is not the cause of the later. At the bottom of depression, credit is easily available. Even then, it fails to bring a revival. Similarly, contraction of credit can not bring about a depression. At best it can create conditions for that. The expansion or contraction of credit cannot originate either boom or depression in the economy.

2. In Hawtrey's theory the traders gets credit from banks and starts the up turn or vice versa. In actually traders do not depend exclusively on bank credit, but they finance business through their own accumulated funds and borrowings from private sources.

3. Hamberg does not agree with Hawtrey that traders react to changes in interest rates. Traders react favourably to a reductions is permanent. Otherwise they do not react. Also, if trades finance their stocks with their own funds, interest rate changes will have little effect on their purchases.

4. Factors other than interest rate also influence the investment decissions. Price changes, cost of storage, business expectations also effect the purchases of the traders.

5. Hawtrey's theory fails to explain the periodicity of the cycle.

6. Finally, Hawtrey's theory is incomplete, because it emphasises only monetary factors and totally ignores non-monetary factors such as innovations, capital stock, multiplier – accelerator interaction etc.

16.4. Keyne's theory of trade cycles

The Keynesian theory of trade cycle is an integral part of his theory of income and employment. Keynes regards the trade cycle as mainly due to a cyclical change in the marginal efficiency of capital, though complicated and often aggravated by associated changes in the other significant short – period variables of the economic system.

According to Keynes, the principal cause of depression and unemployemnt is the lack of aggregate demand. Revival can be brought about by raising aggregate demand which inturn can be

raised by increasing investment and consumption. Since consumption is stable during the short run, therefore revival is possible by increasing investment. Similarly, the main cause of downturn is reduction in investment. Thus the Keynesian theory of trade cycles, fluctuations in economic activity are caused by fluctuations in the rate of investment. And fluctuations in the rate of investment are caused mainly by fluctuations in the marginal efficiency of capital. The rate of interest which is the other determinant of investment, is more or less stable and does not play a significant role in cyclical fluctuations in investment, but at times it reinforces and supplements the primary motivating factor i.e. changes in marginal efficiency of capital. Marginal efficiency of capital means the expected rate of profit on new investment. Therefore the economic fluctuation results from the changes in the expectations about the rate of profit on new investment.

Fluctuations in the marginal efficiency of capital or the expected rate of profit on new investment are due to a) changes in the prospective yield and b) changes in the cost or supply price of the capital goods. It is the prospective yield which makes the marginal efficiency of capital very unstable and subject to violent fluctuations.

To explain the course of the keynesian cycle, we start with the expansion pahse. During the expansion phase, the MEC is high. Businessmen are optimistic. There is a rapid increase in the rate of investment. Consequently, output, employment and income increase. Every increase in investment leads to a multiple increase in income via multiplier effect. This cumulative process of rising investment, income and employment continues till the boom is reached. As the boom progresses, there is tendency for the MEC to fall due to two reasons. First, as more capital goods are being produced steadily, the current yield on them declines. Second, at the same time the current costs of new capital goods rise due to shortages and bottle necks of raw materials and labour. During the downturn, investment falls due to a fall in the MEC and rise in the rate of interest. This lead to a cumulative decline in employment and income via the reverse operation of the multiplier. Further, the fall in the MEC may shift the consumption function downward there by hastening the depression.

The revival depends on the factors which bring about the recovery of the MEC. The interval, between the upper turning point in the trade cycle, and the start of recovery, is conditioned by two factors. I) the time necessary for wearing out of durable capital assets and ii) the time required to absorb the excess stocks of goods left over from the boom. Just as the MEC was pushed down by the growing aboundance of capital goods during the period of boom, similarly as the stocks of capital goods are depleted and there grows a scarcity of capital goods, the MEC rises, thereby inducing the businessmen to invest more. Income increases due to the multiplier effect. So the cumulative process tarts upward.

16.5. Criticism of the Keynes' theory

Keynes' theory of trade cycle is superior to the earlier theories because it is more than a theory of the business cycle in the sense that it offers a general explanation of the level of employment, quite independently of the cyclical nature of changes in the employment. However critics pointed out its weakness.

1.   Keynes theory of trade cycle over emphasises the role of business expectations in

influencing MEC. Thus Keynes's theory is not much different from Pigou's psychological theory of trade cycle.

2. According to Hazilitt, the term MEC being vague and ambiguous, Keynes's explanation of the crisis of marginal efficiency of capital is either a useless trusim or an obvious error.

3. Another weakness of the Keynes's theory of trade cycle is that some of its variables such as expectations, marginal efficiency of capital and investment cannot explain the different phases of the cycle. So Dillard criticise that this theory is an incomplete theory.

4. Dillard also points an other defect in Keynes's theory that it does not examine closely the empirical data of cyclical fluctuations.

5. One of the serious omissions of Keynes's theory of trade cycle is the acceleration principle. This made the theory one – sided because his explanation centres round the principle of multiplier. As pointed out by J.R. Hicks, "The theory of acceleration and the theory of multiplier are two sides of the theory of fluctuations, just as the theory of demand and the theory of supply are the two sides of the theory of value".

16.6. Hick's theory of trade cycle

J.r. Hicks in his book "A contribution to the theory of the trade cycle" builds his theory of trade cycles around the principle of the multiplier – accelerator interaction. The ingredients of Hick's model of trade cycle are the warrented rate of growth, the consumption function, autonomous investment, an induced investment function and the multiplier – accelarator relation. The warrented rate of growth is the rate which will sustain itself. It is consistent with saving investment equlibrium. The economy is said to be growing at the warrented rate when the real investment and real saving are taking place at the same rate. According to Hicks, it is the multiplier accelerator interaction which weaves the path of economic fluctuations around the warrented growth rate. The consumption function takes the form $C = a^{y}_{t-1}$ consumption in period 't' is regarded as a function income of the previous period (t – 1). Thus consumption lags behind income, and the multiplier is treated as a lagged relation. Autonomous investment is independent of changes in the level of output. Hence it is not related to the growth of the economy. Induced investment, on the other hand is dependent on changes in the level of output. Hence it is a function of the growth rate of the economy. In the Hicksian model, the accelartor is based on indused investment which along with the multiplier brings about an upturn. The accelelerator is defined by Hicks as the ratio of induced investment to the increase is income. Given constant values of the multiplier and the accelerator it is the "leverage effect" that is responsible for economic fluctuations.

Assumptions of the model : The Hicksian Theory of trade cycle is based on the following assumptions.

1. He assumes a progressive economy in which autonomour investment increases at a constant rate so that the system remains in a moving equilibrium.

2. Hicks assums constant values for the multiplier and the accelarator.

3. There is "full employment ceiling" which acts as a direct restraint on the upward expansion

of the economy.

4.   The working of the accelerator in the down swing provides an indirect rstraint on the downward movement of the economy.

5.   The relation between the multiplier and accelerator is treated in a lagged manner, since consumption and induced investment are assumed to operate with time lag.

6.   It is assumed that the average capital output ratio (v) is greater than unity and that gross investment does not fall below zero.

Explanation of Hicks Model : Hicks explains his theory of the trade cycle in terms of figure 16.1. Line AA shows the path of autonomous investment growing at a constant rate, EE is the equilibrium level of output which depends on AA and is deduced from it by the application of the multiplier accelerator interaction to it. Line FF is the fullemployemnt ceiling level about the equilibrium path EE and is growing at the constant rate of autonomour investment. LL is the lower equilibrium path of output representing the floor or slump equilibrium line.

Hicks begins from a cycleless situation P_0 on the equilibrium path EE when an increase in the rate of autonomous investment leads to an upward movement in income. As a result, the growth of output expansion path from P_0 to P_1. According to Hicks, this upswing phase relates to the standard cycle which lead to an explosive situation because of the given values of the multiplier and the accelerator. But this does not happen because of the upper limit or ceiling set by the full employment level FF. Thus certain bottlenecks of the supply emerge which prevent output from reaching the peak and instead encounter the ceiling at P_1.
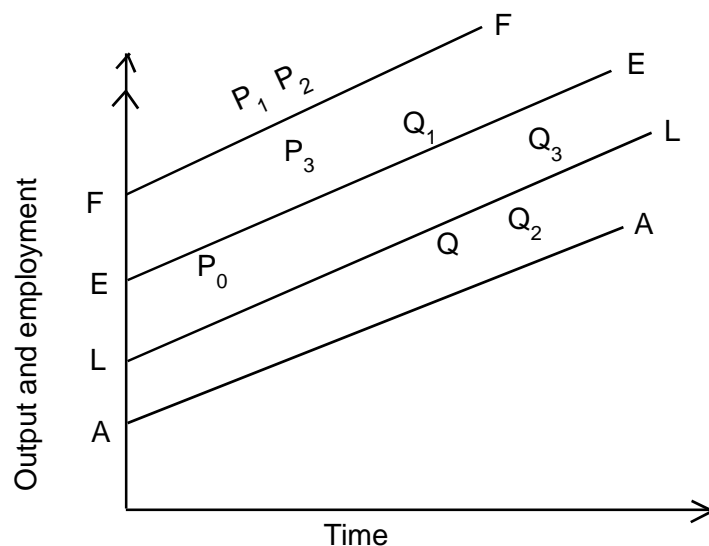

Figure 16.1

When the economy hits the full employment ceiling at P_1, it will creep along the ceiling for a period of time to P_2 and the downward swing will not start immediately. The economy will move along the ceiling from P_1 to P_2 depending upon the time period of the investment lag. The greater the investment

lag, the more the economy will move along the ceiling path. Since income at this level is decreasing relative to the previous stage of the cycle, there is a decreased amount of investment. This much of investment is insufficient to keep the economy at the ceiling level and then the downturn starts.

During the downswing "the multiplier – acceleator machanisms sets in reverse, falling investment, reducing income, reduced income reducing investment and so on progressively. If the accelerator worked continuously, output would plunge downward below the equilibrium level EE and because of the explosive tendencies, to a greater extent than it rose above it". The fall in output in this case might be a steep one, as shown by $P_2 P_3 Q$. But in the downswing, the acceleartor does not work so swiftly as in the upswing. If the slump is severe, induced investment will quickly fall to zero and the value of the accelerator becomes zero. The rate of decrease in investment is limited by the rate of depreciation. Thus the total amount of investment in the economy is equal to autonomous investment minur the constant rate of depreciation. Since autonomous investment is taking place, tha fall in output is much gradual and the slump much longer than the boom, as indicated by Q_1, Q_2. At Q_2 the slump reaches the bottom of floor provided by LL line. The economy does not turn upwards immediately from Q_2 but will move along the slump equilibrium line to Q_3 because of the existencse of excess capacity in the economy. Finally, when all capacity is exhausted, autonomous investment will cause income to rise which will inturn lead to an increase in induced investment so that the accelarator is triggered off with along with the multiplier moves the economy towards the ceiling again. It is in this way that the cyclical process will be repeated in the ecnonomy.

Hicks also brings the role of the monetary factors in his cycle theory. If during an upswing the banks follow the policy of credit contraction the downswing might start before reaching the full employment ceiling. When profits decline during a downturn, there will be an increase in liquidity preference and consequent decrease in loanable funds. As a result, autonomous investment falls which brings a marked decline in income than otherwise. Thus monetary factors are capable of influencing and aggrovatig the aptitude of the cycle. However, Hicks traces the basic cause of the cycle to the multiplier – accelerator interaction.

16.7. Criticism of Hicks theory

The Hicksian theory of trade cycle has been severely criticised by Duesenberry, Smithes and others on the following grounds.

1) Hicks model assumes that the value of the multiplies remains constant during the different phases of the trade cycle. But this not true as Friedman has proved on the basis of empirical evidence that the marginal propencity to consme does not remain stable in relation to cyclical changes in income. Thus the value of the multiplier also changes with different phases of the cycle.

2) Hicks has also been criticised for assuming a constant value of the accelerator presupposer a constant capital – output ratio. It is unrealistic because the capital output ratio is itself subject to change due to technologic factors.

3) Hicks assumes that autonomous investment continues throughout the different phases

of the cycle at a steady pace. This is unrealisstic because financial crisis in a slump may reduce autonomous investment below its normal level. It may also subject to fluctuations due to a technological innovation.

4) Hicks distinction between autonomous and induced investment is not feasible inpractice. As pointed out by Lundberg, every investment is autonomous in the short run and a major amount of autonomous investment becomes induced in the long run.

5) Hicks has been criticised for his explanation of the ceiling or the upper limit of the cycle. According to Desnberry, the ceiling or the upperlimit of the cycle fails to explain adequately the onset of depression. It may at best check growth and not cause a depression.

6) Hicks explanation of the floor and of the lower turning point is not convincing. According to Hicks, it is autonomous investment that brings a gradual movement toward the floor and it is again increase in autonomous investment at the bottom that leads to the lower turning point. Harrod doubts the contention that autonomous investment would be increasing at the bottom of depression. Depression may retard rather than encourage autonomous investment. Hick's contention that revival would start with exhaustion of excess capacity has not been proved by empirical evidence.

7) Another criticism levelled against Hicks's model is that the full employment ceiling as defined by Hicks is independent of the path of output. But fullemployment depends upon the magnitude of resources that are available to the country. When the capital stock is increasing during any period, the ceiling is raised.

8) The role of monetary factors is not clear in his model.

9) Last but not least, Hicks has been criticised for asserting that the contraction phase is longer than expansion phase of the cycle. But the actual behaviour of the post war cycles has shown that the expansionary phase of business cycle is much larger than the contractionary phase.

Despite these weaknesses, Hicksian model is superior to all the earlier theories in satisfactorily explaining the turning point of the business cycles. So this model is at best suggestive.

16.8. Remedial measures

Lack of unanimity, as to the the policy to be followed to eliminate trade cycle, is even more marked than the lack of unanimity about the causes thereof. Most of the economists are agreed that under the existing economic order, crises are unavoidable. We can only delay them or mitigate their severity. We need two sets of measurer to control trade cycles. Those are preventive and curative for stabilisation of the economy.

Preventive measures : For preventing or avoiding crisis, the remedy will depend on the diagonosis. Influences of the climate factors on the supply of raw materials cannot be rule out altogether. In a country like India, where nearly two thirds of the people depend on agriculture, it is necessary that dependence on rains should be reduced as far as possible so that agriculture no longer remains a gamble in the monsoons. A network of canals, wells and resorvoiur may be provided to ensure or adequate and regular supply of water. Other external factors like wars, earthquakes and epidemics

cannot provided against. They do not occur with any degree of regularity.

Imperfect adjustment of demand and supply can be rectified by collecting and disseminating correct and upto date statistical information about the conditions of crops, quantities of goods produced by the main industries, state of employment, imports and exports, percapita income, prices and cost of living index numbers and of company floatations, profits etc. This will help the businessmen to form an intelligent forecast of the probable changes in the demand for and supply of certain types of goods. The intelligent bureau may issue directives and warnings from time to time so that undue pessimism or optimism is nipped in the bad. In a boom period, the companies may be asked to follow a cautions polity in the distribution of the dividends and to build up reserves.

The above – mentioned preventive measurers will not however, be enough. Besides these, a country must always formulate and follow an appropriate monetary policy so as to avoid the occurrence of booms and slumps. Monetary policy embraces banking and credit policy relating to loans and interest rates as well as the monetary standard and public debt and its management. It influences the volume of credit base and through it the volume of bank credit and thus the general level of prices and of economic activity. Money supply during times of inflation can be regulated by means of bank rate policy, open market operations, changes in cash reserve ratio, selective credit control etc. When boom conditions are developing, bank rates Is raised and thus credit is contracted with the consequent brake upon the undue expansion of business – activity. In a depression a policy of cheap money may be adopted to stimulate business investment and thus assist recovery.

But monetary policy is not much effective in the periods of depression. A substantical reduction in the interest rates does not encourage the businessmen to invest for the expansion of production. Therefore any monetary policy will be more useful in times of inflation rather than of deflation or depression.

Monetary policy which is helpful in periods of economic expansion and prosperity may not be much use during a period of depression. In such a situation fiscal policy is best suited. Fiscal policy, broadly speaking, consists of a) Public spending or a policy of public works b) appropriate taxation. In a year of depression, that is when private investment is at low the deficiency in investment will have to be made up by large capital outlay by the state, and conversely, during the upward swing of the cycle, the state will have considerably to cutdown its spending programme. Thus, during the depression years, state must be ready to spend beyond its reserves. The state should prepared to have deficit budgets during depression. Conversely there should be surplus bugets during the years of prosperity. On the revenue side taxes should be lowered during depression. While they should be raised during boom years. To stimulate business investment during depression, not only the rates of taxes should be lowered but also more liberal allowances for depreciation and obsolesence etc should be granted.

Thus Fiscal policy which is also called the contracyclical management of public finance may be operated both through public revenues and public expenditure. Between these two, the expenditure method is far more effective in stimulating business activity. Moreover, the taxation policy leaves the entire initiative to the business community and is also not capable of directing expenditure into channels which may be particularly desired. However best result will be achieved if both of them are combined.

In recent years economists have been advocating the state control of private investment for the

purpose of counteracting business fluctuations. But the danger of such policy lies that too much state intervention will hamper private enterprises. But leaving private investment entirely free is also not very safe. A happy mean will have to be struck. When that is done, economic stablisation will become more practicable.

16.8. Summary

A business cycle is associated with the fluctuations in economic activity, output, employment, prices, wages, interests, profits etc. There are several theories put forward by different economists regading the causes of business cycles. Hawtrey's monetary theory, Keynes's theory and J.R.Hicks theory are important among them.

According to R.G. Hawtrey "the trade cycle is a purely a monetary phenomenon". It is the changes in the flow of monetary demand on the part of businessmen that lead to prosperity and depression in the economy. Bank credit plays a vital role in the expansion and contraction of the business activities. The expansion of the trade cycle starts when banks increase credit facilities by reducing the rate of interest o lending. Business people will borrow from banks inorder to increase their stocks. Money incomes of the factors of production icrease leading to a cumulative expansion of productive activity in the ecoomy. According to Hawtrey, prosperity cannot continue limit lessly. It comes to an end when banks stop credit expansion. In order to repay bank banks, businessmen starts selling their stocks. This sets the process of falling prices which finally led to depression.

Monetarists like Friedman hours supported Hautrey's theory. But some economists have criticised his theory for over - emphasing monetary factors and neglect of non-monetary factors in explaining cyclical fluctuations.

The keynesian theory of business cycle is an integrad part of his theory of income and employment. Keynes regards the trade cycle as mainly due to a cyclical change in the marginal efficiency of capital. It is the defficency of effective demand that with brought depression. Revival can be brough about by raising aggregate demand which in turn can be raised by increasing investment. All fulctuations in the rate of investment are caused mainly by flutuations in the marginal efficiency of capital i.e. But preventive measure will not however by enough. Besides these, a country must formulate an appropriate monetary as well as fiscal policies to avoid the occurance of booms and slumps. Monetary policy embraces the credit policy of the banks relating to loans and interest rates. Money supply during infaltion can be regulated by means of bank rate policy, open market opertions, changes in cash reserve ratio, selective credit control etc.   In a depression a policy of cheap money may be adopted to stimulate business investment.

Fiscal policy which is called the contracyclical management of public finance may be operated both through public revenes and public expenditure. The public expenditure method is very effective in stimultating business activity during depression. Taxation policy will control the over expansion of the business activities in times of inflation.

By this we can conclud both monetary and fiscal policies are necessary for control of business cycles and establishment of stability in the economy.

16.9. Self Assessment Questions

T.A. Estey : Business cycles

D.Hemberg : Business cycles

Mitchell W.C. : Business cycles, its problems and setting

M.C. Vaish : Macro Economics Theory

J.R. Hicks : A contribution to the theory of business cycles.

16.10. References

1. What do mean business cycles ? Discuss critically the view that "the trade cycle is a purely monetary phenomenon".

2. Discuss to view that trade cycle is mainly due to fluctuations in the marginal efficiency of capital.

3. Explaint he modern theory of trade cycle with the help of the accelerator principle.

4. Critically disucss the Hicksian theory of trade cycle.

5. Discuss what you consider to be most satisfactory explanation of trade cycle.

6. Discuss the various measures which should adopt to fight cyclical fluctuations.

7. Discuss the policies that can be followed to control cyclical fluctuations.