CENTRE FOR DISTANCE AND ONLINE EDUCATION

Class : B.Com. III **Semester : 5**

Paper : Money and Banking (BCOU3509T) **Unit : I**

Medium : English

Lesson No. **UPDATED ON 26th May 2023**

STREAM- III : BANKING AND INSURANCE
BCOU3509T: MONEY AND BANKING

Time allowed : 3 hours
Pass Marks : 35%
Periods per week : 6

Max Marks: 100
Internal Assessment: 30
External Assessment: 70

Instructions for Paper-Setters/Examiners

The question paper covering the entire course shall be divided into three sections as follows:

SECTION-A

It will consist of essay type questions. Four questions shall be set by the examiner from Unit-I of the syllabus and the candidate shall be required to attempt two. Each question shall carry 10 marks; total weight of the section shall be 20 marks.

SECTION-B

It will consist of essay type questions. Four questions shall be set by the examiner from Unit-II of the syllabus and the candidate shall be required to attempt two. Each question shall carry 10 marks; total weight of the section shall be 20 marks.

SECTION-C

It will consist of 12 very short answer questions from entire syllabus. Students are required to attempt 10 questions up to five lines in length. Each question shall carry 3 marks; total weight of the section shall be 30 marks

UNIT – I

Money: Meaning, features, functions and kinds of money; Monetary Standards: Metallic and paper standards, system of note issues in India. Supply of money: mechanics of money supply, Measures of money supply in India. Demand for Money: Factors determining demand for money. Money and credit; Credit creation; Money Multiplier; Rate of Interest: Meaning and its determination, Factors affecting the level and structure of Interest Rates. An overview of interest rate structure in India.

UNIT – II

Banking: Introduction, Types and functions of banks, Banking system: Branch Banking, unit banking, chain banking, group banking and mixed banking; Central Banking: Functions and techniques of credit control. Monetary policy: Objectives, and its tools; Reserve Bank of India: Role and Functions. Commercial Banking in India: Structure and functioning.

Banking Sector Reforms: Recommendations of Narasimham Committee, Basel II Norms, Revised NPA norms, Impact of reforms; Innovations in Banking: Important features of Internet Banking, E-Banking, Mobile banking, Universal Banking, Off-shore Banking, Real Time Gross Settlement, National Electronic Funds Transfer, Indian Financial System Code (IFSC).

Course Outcome: This course will help the students to know the about the money, its supply and demand, credit creation and interest rate structure in India. They will also learn about the banking sector reforms and Banking system in India.

Suggested Readings:

1. M.C.Vaish: Money, Banking and International Trade
2. D.M. Mithani: Money and Banking
3.M.L. Seth: Money, Banking and International Trade
4. M.Y Khan : Indian Financial System.

B.Com PART –III **BCOU3509T**

MONEY AND BANKING

LESSON NO. 1.1 **AUTHOR : DR. J.R. GUPTA**

MONEY–AN INTRODUCTION

Structure

1.1.1 OBJECTIVES OF THE LESSON :

Afte going through this lesson students will be able to -

understand the concept of money.

- understand the functions and types of money.
- comprehend the significance of money in different economic systems.

1.1.2 INTRODUCTION

Social economy has always been and probably will remain a monetary economy. Small communities in isolation may do without money, and barter system (i.e. direct exchange of goods and services with goods and services) may suffice under very

primitive conditions. We might also conceive of a modern economy, which is so completely planned that it does not use money. But as we shall discuss further, even in such an economy, money is indispensable for a variety of reasons. This suggests that this man-made instrument is particularly important for the modern economies. In this lesson we shall study first the inconveniences and limitations of barter system so that we can appreciate the various roles played by money.

1.1.3 LIMITATIONS OF BARTER SYSTEM

Direct exchange of one commodity for another without the mediation of money is called barter. This system of exchanging goods for goods continued to prevail before the invention of money. Because of certain uses of barter system, it still prevails in certain backward parts of India and other underdeveloped countries. Particularly in villages, the direct exchange of goods for goods still prevails in India. Wage payments in kind to agricultural labourers is nothing but one manifestation of barter system.

The system of barter is simple. It increases co-operation and is usually free from the evils of money. This system is particularly suitable for primitive and self-sufficient pre-industrialised economies where the exchange requirements of people are limited. However, with increasing economic development, as the market economy and the exchange requirements expand, barter economy fails to deliver the goods. An increasing division of labour, which is a necessary concomitant of development, gives rise to increasing exchange, which encourages the ever improving monetary instruments. It is next to impossible that all wishes of individuals, who enter into barter system, should coincide as to kind, quality, quantity and value of the things, which are mutually desired. This is especially true for a modern economy in which on a single day millions of persons may exchange millions of commodities and services. A medium of exchange which everyone is willing to accept easily overcomes the difficulties of barter because by splitting the actions of barter into purchases and sales which are independent of each other, the need for people's wishes to coincide exactly as to quality, value, time and place is eliminated. We can enumerate the following main **difficulties of barter system :**

1. Lack of double coincidence of wants

Under the barter system it is necessary that the wants of two persons who wish to exchange goods must coincide. Suppose X has wheat and he wants sugar. Then X must find a person who has sugar and who is ready to exchange sugar for wheat. Barter, thus, required double coincidence of wants which, in practice, is difficult to be found. However, goods can be exchanged for money, which is usually the most acceptable medium of exchange.

2. Lack of common measure of value

Barter system suffers from the fact that there is no common measure of value. In the above example, even if X succeeds in finding out a person who is having sugar and is willing to exchange his sugar for wheat, the problem will not end here: for how

much of wheat how much sugar should be exchanged? The exchange of goods cannot take place unless and until the two persons agree to exchange some given quantity of goods with each other. Since there is no common measure in terms of which the values of different goods can be expressed, the ratio of exchange of two goods will be arbitrary and vary from person to person depending upon their intensities of want for different goods.

Further, in this system the value of different goods will be expressed in as many terms as there will be the number of goods and services (including their different qualities and varieties). This value system would be very cumbersome and beyond the comprehension of an average person. Moreover, in this situation no meaningful accounting system is possible since it will be very difficult to keep account of a commodity, say wheat, in terms of as many commodities as are exchanged for it.

3. Indivisibility of commodities

Barter system fails in respect of many articles, which are indivisible. Suppose a man is having a horse and he wishes to exchange his horse for wheat, rice, vegetables and so on. He cannot break his horse into pieces and then go to the individual sellers of the above commodities to exchange pieces of horse with other commodities. Thus, certain commodities which are indivisible cannot be bartered away. However, this difficulty has been removed by the invention of money. Horse can be sold for money, which can then be used for the purchase of different commodities. The rest of the money can be stored for other purposes. This brings us to another difficulty of barter, i.e., storing of wealth.

4. Difficulty of storing wealth

In the above example, suppose the seller of horse does not want to spend all his sale proceeds from the horse instantaneously. Suppose he wants to store some of his sale proceeds for future needs. Under the barter system he can do this only by storing some commodities, say wheat. But, wheat cannot last longer than one year. And that too would require great skill. Obviously, life would be highly insecure without the use of money.

An idea about the difficulties of barter can be had by narrating the example of a famous French singer who gave her performance at an island where money was not used. She was paid in kind, i.e., pigs, goats, apples, bananas and other fruits. This should have made her richer. But in the course of journey she found that the pigs and goats had eaten away her fruits, and to keep them alive, she had to give many more performances so that she could earn enough to feed those animals.

5. Difficulty of transporting commodities

Under the barter system, one has to transport goods and services from one place to another. Suppose a shepherd wishes to exchange his sheep for other commodities. Then he will have to travel a long distance along with his herd to find the sellers of commodities he wishes to buy and who are willing to purchase his sheep. In this

process it is possible that the shepherd may lose a number of sheep on the way or he may be looted. The invention of money has saved us from the drudgery of transporting goods.

6. Other difficulties

Besides the above-mentioned difficulties, one can add many more. How to exchange different services under the barter system ? How can a teacher be paid ? How can one evaluate the service renderd by a musician or a doctor ? Further, the process of borrowing and lending would be extremely difficult under the barter system. How to settle deferred payments, i.e., calculate the rate of interest ?

In a nutshell, we can say that barter system cannot cope with the devlopment of a modern industrial society which is based on the division of labour. The workers are paid much before the final output, i.e., they are paid daily, weekly or monthly, whereas the final output may come after, say six months or one year. In certain cases this period may be much longer (e.g. in heavy industry). In the intervening period the workers and other factors of production will have to be paid. How to do this without the use of money ? Thus, money has not only saved us from the inconvenience of barter but maximum satisfaction out of limited resources has also become possible because of the use of money. In the words of Professor Robertson, "The need for money then seems to be fundamental, if a given volume of productive power is to be made to yield the greatest harvest of individual satisfaction which it is capable of yielding."

1.1.4 EVOLUTION OF MONEY

As already stated the barter system could not cope with the complexities of modern industrial society. The inconveniences of barter were pressingly felt by them when they tried to move out of the primitive economy and when their wants became diversified. Men began to think of some device which would save them from the difficulties of barter. The search for such a device resulted in the evolution of money. In a modern economy incomes consist of wages, salaries, interest, rents and profits which are payments for the services contributed towards the manufacturing or sale of goods. Such payments are not received continuously and the dating of expenditure does not coincide with that of income received. No one spends the whole of his weekly or monthly income the moment it is received. To a considerable extent, therefore, money must necessarily act as a store of value by virtue of its use as a medium of exchange.

However, in the beginning money was used as a unit of account in terms of which all other goods and services were evaluated. For example, when a goat of a given size and weight was adopted as a standard, all other commodities were evaluated in terms of this goat. If a horse was worth 5 goats, and 100 bananas worth one goat, then it was easily understood that 500 bananas were worth one horse.

Thus, the value of everything was determined in terms of a standard goat.

It must be understood, however, that goods were still exchanged for goods, The only novelty was that the values of goods and services were determined in terms of a standard commodity (goat in our example). This symbolises the birth of money.

This idea of adopting some commodity as standard of value in terms of which the values of all other commodities were assessed was an important invention of mankind considering that the adoption of some commodity as the standard of value (or unit of account) is a great invention. Crowther rightly remarks that, "To us this invention seems very simple. It is merely the application to the sphere of the same idea that has produced the foot or the meter to measure length, the pound or gram to measure weight, the degree to measure temperature, and so forth. But at that time it was doubtless radical....And it undoubtedly was an invention; it needed conscious reasoning power of man to take the step from simple barter to money accounting."

The use of money as a unit of account did not spare man from the inconvenience of barter. As already stated, goods are still exchanged for goods. So both the parties, i.e., buyers and sellers, had to be brought together to exchange their goods though indirectly through the use of standard goat, a unit of account. This difficulty was removed when money was used as a medium of exchange. Money came into being which facilitated the exchange of goods and services much faster.

Apart from facilitating transactions by serving as a unit of account and a medium of exchange the invention of money also made it easy to store wealth by serving as a store of value. In a barter economy a rich man was one who had a large store of physical things he needed, i.e., large chunks of fertile land, large number of animals, big buildings and so on. But managing all these things was a difficult task. However, with the invention of money, nothing except money needed to be stored since money could purchase everything when required.

These three functions : a unit of account, a medium of exchange, and a store of value performed by a commodity constitute the invention of money. Thus, in the words of Crowther, "Money is one of the most fundamental of all man's inventions. Every branch of knowledge has its fundamental discovery. In mechanics it is wheel, in science fire, in politics the vote. Similarly, in economics, in the whole commercial side of man's social existence, money is the essential invention on which all the rest is based."

1.1.5 FUNCTIONS OF MONEY

Money cannot be defined by enumeration, i.e. by making a list of things that can serve as money. This is because it is not only a tedious job, but also because it will not tell us what money is. Money is not what it is, but what it does. Thus, a proper definition of money must be put in functional terms so that money can be defined as anything that performs these functions.

Various functions that money performs have been divided into : (a) Primary functions (b) Secondary functions : (c) Contingent Functions.

(a) Primary Functions

The two basic functions of money for which money was evolved, i.e., to serve as a unit of account and medium of exchange, are said to be the primary functions of money. In every country, irrespective of its ideology, these two jobs are entrusted to money. By performing these functions money has freed the economy from the inconvenience of barter.

As a unit of account or measure of value, money has removed the greatest inconvenience of barter, i.e., how to determine the value of different commodities in relation to each other. Once the values of all commodities have been expressed in terms of money, their relative prices can be easily determined. Thus, the existence of a money unit facilitated comparison of relative value of goods.

By acting as a medium of exchange, a single transaction of barter is decomposed into separate transactions of sale and purchase, and the need for the double coincidence of wants (a necessary precondition for exchange to take place under the barter system) is eliminated.

(b) Secondary functions

The secondary functions of money are :

(i) Store of value.

(ii) Standard of deferred payment; and (iii) Transfer of value.

As already stated, in modern economy income consists of wages, salaries, interest, rents and profits. Such payments are received and spent discontinuously. Dates of expenditure do not coincide with the dates of income. No one spends the whole of his weekly or monthly income the moment it is received. Therefore, to a considerable extent, money must necessarily act as a store of value by virtue of its use as a medium of exchange.

Two other functions are generally performed by money- that of acting as a standard of deferred payment, and transfer of value- though these two functions are not always independent of each other. Money, by virtue of acting as the medium of exchange, will generally be used as standard for deferred payment. The third secondary function of money relates to its serving as a medium of transfer value. Money facilitates the transfer of value from one person to another and from one place to another more easily and quickly than any other measure. Suppose Rs. one crore have to be transferred by a person residing in Kerala to a person residing in Punjab. While under the barter system so much of physical quantity of .goods would have to be transported/transferred, under the money system a simple paper (Bank draft) indicating the value will serve the purpose.

(c) Contingent Functions

Besides performing primary and secondary functions, money also performs contingent functions viz :

(i) Distribution of national income.

(ii) To equate marginal utilities of expenditure,

(iii) To serve as a basis of credit creation; and

(iv) To impart uniformity and liquidity to wealth.

Money facilitates the distribution of national income. In the modern economic system a large number of people, workers, capitalists and entrepreneurs, contribute to production. The methods of production are roundabout or indirect. The final output belongs to all the contributors. In the absence of money, the distribution of the joint product among the various claimants would have been impossible. This would have been more so if the final product is indivisible.

Money facilitates the maximisation of satisfaction of both the consumers and the producers. Since money is the only commodity which can be distributed among the competing users in different quantities, a consumer applies the principle of maximum satisfaction by purchasing quantities of various goods at the margin with a given amount of money. With the help of money, producers are also enabled to maximise their returns by substituting one factor for another at the margin.

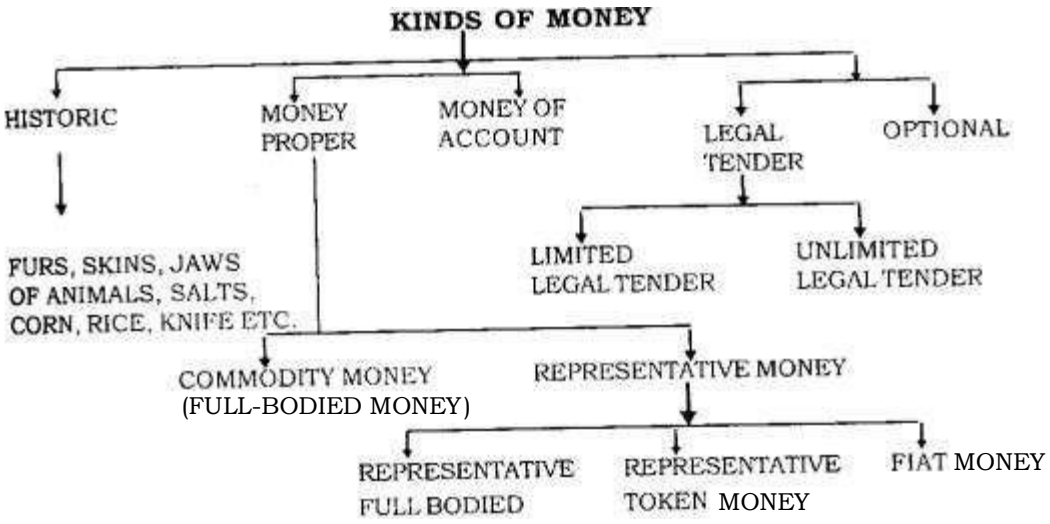
Money is the basis of credit creation. The banks rely upon the supply of money to increase or decrease the amount of the credit. It must be mentioned here that credit is the sine qua non of the modern industrial societies in which the institutional finance is the major source of capital, both working as well as fixed.

Money also imparts uniformity and liquidity to different types of assets. When different assets are converted into money, they become uniform. Money itself is highly liquid as it can be converted into any other form of wealth. Just as liquid assumes the shape of any pot in which it is stored, similarly wealth in money form can be converted into any commodity at the wish of the owner.

1.1.6 KINDS OF MONEY

There are several ways of classifying money. One way of classifying money is according to the different forms in which it has existed or been in circulation. This would include **historic money** such as furs, skins etc. Another way of classifying it is to make a distinction between **money proper** and **money of account**. There are different sub categories of money proper also. A third way of classifying money is according to its legal status or acceptability : this classification gives us **legal tender** money and **optional money.**

Let us study these categories in detail. A table will help us in this study.



Ever since the invention of money, it has been in circulation in different forms. The history of development of money shows that in the beginning, ordinary commodities like furs, skins, jaws of animals, etc., were used as money. It was perhaps the beginning of a distinction between money proper and money of account. Money of account is that in which accounts are settled, i.e., in which debts, prices and general purchasing power are expressed. On the other hand, money proper refers to actual money or 'common money'. In the words of Keynes we may elucidate the distinction between money proper and money of account by saying that the money of account is description or title, and money proper is the thing which answers this description. But if the thing can change whilst the description remains the same, then the distinction can be highly significant. The distinction is then like between the King of England (whosoever he may be) and King George. A contract to pay a weight of gold equal to the weight of King of England is not the same thing as a contract to pay a weight of gold equal to the weight of the individual who is King George. Thus, money of account is unchanging while actual money may change in its form and contents. For example, ever since the adoption of monetary system in India, though actual Indian Rupee has been varying in weight, size and the type of metal used, yet as a unit of account it has been the same. Broadly speaking, usually no distinction between 'money proper' and 'money of account' is made. However, at certain unusual times, these might be different. For example, during the war and post-war periods of hyperinflation in Germany, although actual money was Mark, yet U.S. dollar became the unit of account owing to its stable value in the face of rapidly depreciating Mark.

Money proper or common may be either commodity money or representative money. Commodity money is also termed as full-bodied money because the real commodity value of the money material and its face or legal value do not differ. In other words, its real value is equal to its face value. It may also be called standard money since the two values (real as well as face) of money are equal. Gold coins whose face value and real value are the same, may be called full-bodied money or standard money. Accoring to Professor Robertson, full-bodied money may be defined as "Money whose value is not materially greater than that of its component stuff." In the words of Newlyn, "Clearly, money may have commodity value in different degrees. Originally, gold had value which was identical (within very small limits) as a coin and as a commodity. If its commodity value rose above its coin value it ceased to be money and became a commodity, that is to say, it was melted down into bullion. Similarly, if the coin value rose above the commodity value, then the commodity gold became money, that is to say, it was brought to the mint to be coined."

Actual money which is not full bodied is called representative money. Professor Robertson defines representative money as "Money whose value is materially greater than the value of the stuff of which it is composed." Representative money is so called because it derives its importance from the main money which it represents. Paper money and cheap metal coins are examples of representative money. Paper money, when incovertible into specie (say gold) is commonly called fiat money, i.e., money by command. The 'fiat money' exists simply because of the authority of the government. Inconvertible currency notes of the small and high denominations issued by the Central Bank are best examples of fiat money. As will be seen shortly 'fiat money' is an extreme example for token money. Thus, representative money can be divided as :

1. Representative full-bodied money
2. Representative token money
3. Fiat Money

1. Representative Full-Bodied Money

Under the representative full-bodied monetary system, the holder of money is promised by the issuing monetary authority the payment of full-bodied coins or the equivalent quantity of gold (bullion) in exchange for money received. It is obvious that although representative full-bodied money has no value of its own nevertheless as a medium of exchange it represents a certain quantity of specie whose commodity value is equal to the legal value of the money it represents. U.S. Gold Certificates which were circulated in U.S.A. before 1933 were an ideal example of representative full-bodied money because they were fully backed by the required quantities of gold.

The representative full-bodied money is issued on the same principles on which the full-bodied commodity money is issued. Since the issue of the representative fullbodied money is to be accompanied fully (100 percent) by the reserves of gold or

other precious metals, the danger of over-issue of currency is ruled out. Representative full-bodied money is better than full-bodied commodity money in many respects. Firstly, it will do away with the heavy cost of coinage which must be incurred in case of full-bodied money. Secondly, the loss of precious metals, which is associated with the conversion of gold into coins and with the handling of such coins, is less in case of representative full-bodied money. Thirdly, representative full-bodied money has the added advantage of easy transportablity. Against these advantages, however, its only disadvantage is that it lacks durability and it can be easily lost.

2. Representative Token Money

Under the representative token money system the holder of money is entitled for token coins for equal weight of gold by the monetary authority. It resembles its counterpart, the representative full-bodied money, in all respects except that the commodity value of bullion or coin kept as reserve is less than its value as money.

Since representative full-bodied token money always carries its real value with it, it is acceptable not only in the country of origin but also in other countries. Usually, full-bodied representative money carries a great confidence of people than token money. People accept it in payment of transactions without hesitation. From this, however, it does not follow that full-bodied money is always better than token money. Under certain circumstances token money may be more useful than full-bodied money. In the last quarter of the 19th century, most of the countries adopted gold standard replacing silver standard. This led to the fall in the price of silver. Let us assume that there was a country, which continued to be on the silver standard. If in such a situation the carriage of silver was continued at the official price, this would have encouraged the imports of silver (whose price had fallen in other countries), thereby increasing the money supply and hence endangering inflation. Thus, a full-bodied money does not always guarantee against price instability.

On the other hand, if the country suspends full-bodied money in favour of token money, the free coinage of silver (as implied in the full-bodied money) will automatically stop which will not encourage the import of cheap silver. Thus, replacing token money in favour of full-bodied money will ensure greater price stability. The point to emphasise is that neither the full-bodied money nor the token money are good or bad by themselves.

3. Fiat Money

Fiat money, as the name implies, circulates in the country by the formal command of the state. The main features of 'fiat money' are :-

1. It has little or no value as commodity.
2. It is non-redeemable in any commodity whose value is equal to its face value.

3. Its purchasing power is not kept at par with that of gold or silver in which it might have been formerly convertible.

Generally, 'fiat money' consists of paper currency and inconvertible bank notes of different denominations. For example, different currency notes, say Rs. 100 or Rs. 500 are hardly worth one paisa as a piece of paper on which they are printed. However, it should be emphasised that this characteristic of fiat money does not distinguish this from other kinds of money, particularly representative full-bodied paper currency. In the latter case also, the representative money itself hardly possess any value. Yet it is not a 'fiat money'. Therefore, something more than the mere fact that 'fiat money' has no real value is needed before a particular money could be called fiat. The distinguishing features of 'fiat money' is that it cannot be redeemed in gold. So long as full-bodied representative money can be converted into gold at the discretion of its holder, the country would not be on a fiat money standard. There is a technical difference between fiat money and token money. Fiat money has no commodity backing while token money has partial commodity backing. However, the distinction is not usually operational.

Now a days, we are so used to fiat money that we never care for its fiat characteristics. Fiat money standard imparts elasticity to the monetary system of the country. It allows the supply of money to be adjusted to the needs of a growing economy. Money supply under the fiat system is fully controlled and not left to the exigencies of availability of gold or other precious metals. Depending upon the need of different countries (both developed and underdeveloped) the supply of money can be increased or decreased. But fiat-money is not a panacea for all economic ills. It always carries along with it the danger of over issue of currency which will endanger the stability of an economy. Since fiat money of a country is not linked with that of other countries, foreign exchange rates continue to fluctuate which endanger the normal flow of international trade. **Classification of Money according to Legal Status (Acceptability)**

Some economists emphasising the general acceptability of money have classified money into legal tender money and optional money (also called bank money or credit money) or customary money). Optional money is that form of money which may or may not be accepted in the discharge of debt. For example, bank cheques and drafts. Legal tender money, on the other hand, is used for settlement of payments without invoking legal punishment.

Legal tender money is of two types :

1. Limited legal tender money : It is one which is accepted as legal tender only upto a certain limited amount, like coins of low denominations.
2. Unlimited legal tender money : It is one which is accepted in the discharge of obligations up to any amount. Example - Hundred rupee notes.

After studying the kinds of money, let us now familiarize ourselves with certain terms **and concepts related to money.**

1.1.6.1 Self Check Exercise 1

1. Explain the different types of money?

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1.1.7 NEUTRALITY OF MONEY

Neutrality of money means that money is neutral in its effect on the economy. If money is neutral, an increase in the quantity of money will merely raise the level of money prices without changing the relative prices and the interest rate. Patinkin explains the neutrality of money as a situation when a uniformly introduced increase in quantity of money causes a proportionate increase in equilibrium prices of commodities and leaves the equilibrium rate of interest unaffected, provided there is absence of money illusion and distribution effects. Gurley and Shaw define neutrality of money as the inability of changes in the nominal stock of money to affect the rate of interest, output and wealth and other variables. Thus, money is neutral if it does not affect relative prices and leaves the interest rate unaffected.

In the classical system, money is neutral in its effects on the economy. It plays no role in the determination of employment, income and output. Rather, they are determined by labour, capital stock, state of technology, availability of natural resources, saving habits of the people and so on. In the classical system the main function of money is to act as a medium of exchange.

In the Keynesian system, there are two situations in which money is neutral. The first is the situation of full employment when any increase in the quantity of money brings about a proportionate increase in the price level but output remains unchanged at the same level. The second is the special case of liquidity trap. When the economy is in the liquidity trap, there cannot be a further fall in the rate of interest even if the money supply is increased by monetary authorities. Thus, there will be no effect on such variables as investment and income. In this situation money is neutral.

The post Keynesians, particularly Friedman, Brunner and Metzler have shown that money is non-neutral in the short-run. Friedman believes that money may be nonneutral in the long run also.

Patinkin and Gurley and Shaw have pointed towards certain conditions or assumptions which must be met to establish the neutrality of money. There must be wage and price flexibility. People must be free of money illusion. Then, changes in the money supply must not change the distribution of income in the economic system. There must be absence of government debt or open market operations in the

money market. People must have perfect information about the conditions of demand and supply in various markets.

MONEY ILLUSION

The propensity to respond to changes in money magnitudes as if they represented changes in real magnitudes is called money illusion. For example, suppose that our money income and the prices of all goods which we could buy were simultaneously doubled. Now, any set of purchase which we previously could afford, we can still afford; and any set we could not previously afford, still cannot be brought. And if the set of purchases we previously made was the one we preferred out of all those available to us, there is absolutely no reason for us to change it now. But, on the other hand, if because our money income has risen and we feel richer now and buy more of luxury goods and less of necessities, we would be suffering from money illusion, because we have failed to realize that our real income has remained the same.

INSIDE MONEY AND OUTSIDE MONEY

The distinction between inside money and outside money is based on the premise that the economy is to be equated with the private sector only and that the government is extraneous or foreign to the economy. Inside money is defined as money based on the debt of endogenous economic units. It is created within the private sector. Bank deposits thus represent assets as well as liabilities of the private sector. Inside money does not add to the net wealth of the community as a whole.

Outside money comes from outside the private sector. It is defined as money based on the debt of a unit (the government) exogenous to the economic system. Thus, it is government money and includes gold, foreign and government securities. It is a liability of the government as a debtor and a claim of the private sector as a creditor. An increase in outside money adds to the net wealth of the economy.

The distinction between inside money and outside money has been used by Gurley and Shaw to show that money may not be neutral. They show that if the money supply consists of a combination of inside and outside money, the classical neutrality of money does not hold good. With only inside money, the addition of net wealth of creditors is counterbalanced by reduction in net wealth of the debtors. On balance, therefore, there is no effect. With only outside money, any change in it will lead to a corresponding change in prices and therefore, while absolute price level will change, price ratios will not. Neutrality of money will still hold. According to Gurley and Shaw the existence of both inside and outside money violates its neutrality. If prices change to restore the value of outside money (when its quantity changes) to the original level, then the value of inside money changes in the process. This will change the asset preference of people in some parts of the economy.

1.1.8 SIGNIFICANCE OF MONEY IN DIFFERENT ECONOMIC SYSTEMS

We have already dealt with the inconveniences of barter which man had to face in the absence of money. In a barter economy double coincidence of wants was a prerequisite for the exchange to take place. Further, indivisible commodities could not be bartered. In fact, barter system assumed a primitive society with people having limited wants. But as the economy expanded, and more so in the present society, barter failed to deliver the goods and hence the invention of money. The significance of money can only be appreciated if money is removed from the economic system even for a single day. However, we shall discuss the importance or significance of money with reference to two famous and extreme forms of economic systems, viz., capitalist system and socialist system.

Money in the Capitalist System

The capitalist economy is not regulated by a central planning board. The factors of production are privately owned and are used according to the free decisions of their owners who are also free to spend what money they earn by selling these factors. If they decide not to spend their earnings, i.e., they wish to save, they are free to do so. The use of these savings for the production of capital goods is again dependent on private initiative.

The millions of individuals in a modern capitalist economy, not being self-sufficient, are co-operating in a gigantic production process. Since there is no central planning board to decide about the problem of production and distribution, we have to ask such questions as : How does each person find his place in this process ? How would producers decide as to what to produce, where to produce and how much to produce ? How will the total produce be distributed ? The answer to all these questions will be found in the analysis of pricing process of which money is an integral part in the capitalist system. The following points will clearly bring out the importance of money in a capitalist system
:

(1) First of all, the use of money divides the exchanging people into sellers and buyers and splits barter into market supply and demand. Supply and demand determine market prices which are exchange values expressed in units of money. The direction of production is determined according to existing and expected price. The difference between these two sets of prices mean profits or losses for producers. According to expected profits or losses production will be expanded or contracted. All production in the modern era rests on economic calculation, i.e., on the comparison of monetary quantities.

(2) Money is an indispensable condition for the development of a credit market. In a barter economy it is possible to borrow goods against the promise to give these goods or other goods back after a certain period. In this case, we should have as

many credit markets as we have different kinds of goods which may be subject to borrowing. It would be impossible to have a uniform credit market for the special economic service involved, viz., the exchange of present for future goods. The development of a money market (or credit market) is the condition of the formation of a uniform price for uniform services. What people demand and supply on this market is not the disposal of money by the use of which other goods may be procured. Loans find their ideal expression in money and it is the monetary economy alone in which it is possible to express the price of loanable funds in the form of interest rate.

(3) Money greatly helps consumers as well as producers to exercise their free choice. Free choice of consumption implies the use of money, because free choice can be exercised only if limited purchasing power at the disposal of consumers can be spent in small amount in alternative uses. This job can be performed by money only. A moneyless economy would have to use a system of rationing, i.e., distributing the social product in a predetermined proportion. Freedom of choice of consumption would be abolished. Likewise the guiding principles of producers, i.e., what, where and how much to produce are all determined by monetary reward.

(4) Money may be regarded as a common denominator for subjective valuations on the assumption that the amount of purchasing power spent on a commodity measures objectively the relative importance of satisfaction to the purchaser. However, this assumption is highly artificial because money income of different persons are unequal.

(5) In a perfect working credit market, savings are sure to be borrowed by those who want to buy capital goods or to increase their consumption beyond the limits of their income. However, money may turn out to be a disturbing factor in the credit market and in the economy in general. Money may be hoarded and total demand may be reduced with the further consequences of reduced production, unemployment and a further fall in demand. It may also happen that lowest practicable rate of interest is not low enough to induce the necessary amount of investment and that money remains idle with consequences similar to those of hoarding. On the other hand, money dishoarding as well as hoarding, change the basic assumption of the barter economy that supply creates its own demand. It had been assumed for a long time that nothing worse could happen than the partial overproduction of commodities which would immediately be remedied by the necessary adjustment in relative prices and production. That there would be a general deficiency in purchasing power was unthinkable. This was unwarranted optimism. Purchasing power can be destroyed with disastrous consequences for the economy just as it can be created with favourable or unfavourable effects depending upon the state of employment and numerous other factors.

(6) Among the disturbing effects of money, those changes in the general level of prices which are known as inflation or deflation are most obvious. If money is

supposed to be a unit of account, its own exchange value should remain comparatively stable. The value of money is expected by its ability to buy and this ability is decreased when prices increase and vice-versa.

Money in Socialist Economy

We have seen that by the use of money, not only is it possible to overcome the clumsiness of barter and to extend the division of labour, but at the same time money is the basis of pricing process by means of which the economy is guided unless it is planned in every detail with complete foresight that individualistic economic calculation is rendered unnecessary. However, it should be noted that in practice as well as in theory, modern planned economies too have made use of the price mechanism.

Lenin, for example, admitted in October, 1921 that they were greatly mistaken that Russia could reach even the initial stage of communism without passing through a period of socialist calculation. Trotsky asserted that a plan had to be checked and, to some extent, realized through the mechanism of the market. He admitted that 'the blueprints produced by the offices must demonstrate their economic efficiency through commercial calculation. Without a firm monetary unit commercial accounting can only increase the chaos."

Some writers argue that abolition of free choice in consumption (which is the necessary concomitant of the economy where resources are allocated by some apex planning body) would do away with the necessity of pricing process. It is true that the problem is made less complicated if we let a central authority decide what is to be produced. Nevertheless, it remains indispensable to have a pricing mechanism without which "it is impossible for an economic system of any complexity to function with any reasonable degree of efficiency." The scarcity of means of production does not allow us to produce whatever we want to produce. Even if the aims of production should be determined by a director, the allocation of resources according to these aims would have to be the result of the working of a pricing process by means of which it is possible to compare the usefulness of the available resources in different fields of employment. Thus, we may safely conclude that even a socialist economy will remain a monetary economy if it is operated with some degree of efficiency.

Indian Currency system and Metallic Standard

1. Early Monetary system (before 1835) : At the time when the East Indian Companycame to India, there was no organised monetary system in India. There was a kind of binetallic standard as both gold and silver coins were in existence.

2. Silver standard (1835 to 1893) : The East India company enacted the CurrencyAct of 1835, according to which the silver rupee was declared as the standard coin in the country. The weight of silver rupee was 180 gms and it was unlimited legal tender.

3. Silver Exchange Standard (1899 to 1917) : From 1893 to 1898 there was a periodof transition before the adoption of gold exchange standard. The Government inroduced the gold exchange standard where

- silver rupees, half rupees and currency notes were unlimited legal tender for internal transactions in India.
- For external purposes, rupee was convertible into gold.

4. Gold Bullions - Cum-sterling Exchange (1927-1931) Under the Currency Act of 1927, a mixture of gold bullion and sterling exchange standards was adopted. The rupee was linked to gold, but its value was fixed at 8.47 grains of fine gold. Present Indian Currency System

The Present currency system in India is managed by the RBI and based on incovertible paper currency system. The present system of using notes in India is based on the minimum reserve method. This system is perfectly elastic and supply can be increased upto any limit, But, there danger of overissue and inflation at times.

System of Notes Issue : Originally, the RBI Act, 1934 provided for the proportional reserve system of note issue under this, the RBI had to maintain minimum 40% reserves (against note issue) in gold coins bullion and foreign securities with the provision that gold coins and bullion were not at anytime to be less than 40 crs. The remaining 60% of the reserves were to be covered by rupee coins, rupee securities of Government of India, approved bills of exchange and promissory notes payable in India. After, independence, the proportional reserve system was replaced by minimum reserve issue is 1956. Under this the Issue Department of RBI was required to keep a minimum of Rs. 400 crores of foreign securities and Rs. 115 crs in gold coins and bullion.

1.1.8.1 Self Check Exercise 2

1. Explain Money Illusion ?

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1.1.9 SUMMARY

In this chapter, we have dicussed the definition, functions, kinds and importance of money. Some important concepts relating to money have also been discussed. We learnt that a definition of money cannot reasonably be put in terms of some

substance or other. Money is not what it is but what it does. The world as we know today cannot exist without money.

1.1.10 GLOSSARY

1. **Representative Full Bodied Money :** Holder of money is promised by the issuing authority the payment of full-bodied coins or equivalent quantity of gold in exchange for money received.
2. **Fiat Money :** This money circulates in the country by the formal command of the state.
3. **Legal Tender Money :** It is used for settlement of payments without invoking legal punishment.
4. **Optional Money :** The form of money which may or may not be accepted in discharge of debt.

1.1.11 QUESTIONS FOR EXERCISE

1. Trace the evolution of Money?
2. Discuss the functions of Money?
3. Explain the kinds of Money?
4. Discuss the limitations of Barter System?
5. Distinguish between Inside and Outside Money?
6. Explain Neutrality of Money?
7. Explain the secondary functions of Money?
8. Write short notes on :
   a) Representative full-bodied money.
   b) Representative token money.
   c) Fiat Money
   d) Money illusion.
   e) Silver standard
   f) Present Indian Currency System

1.1.12 SUGGESTED READINGS

1. M.C. Vaish : Money, Banking & International Trade
2. D.M. Mithani : Money & Banking
3. M.L. Seth : Money, Banking & International Trade
4. M.Y. Khan : Indian Finacial System

LESSON NO. 1.2 **AUTHORS : DR. GIAN KAUR**

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SUPPLY OF MONEY

1.2.1 OBJECTIVES OF THE LESSON

After reading this lesson the student will be able to

- understand the concept and approaches to money supply.
- understand the determinants of money supply.
- comprehend the money multiplier process.
- understand the factors affecting high powered money.

1.2.2 INTRODUCTION

We are all familiar with the concept of money. Money can be defined to be anything that actually functions as a generally accepted medium of exchange for goods, services, assets and repayment of debts. Money can also serve as a store of wealth, a unit of account, and a standard of deferred payment. Various things ranging from shells, stones, goats, cows, gold, silver, paper currency etc. have served as money at different times and places. At present, in India, money comprises of coins, paper currency and demand deposits of banks.

Money supply is both an economic as well as a policy-controlled variable. As an economic variable both the public's and the bank's portfolio behaviour determine it.

As a policy variable, it is the monetary authority which influences it.

1.2.3 Approaches to Definition of Money Supply

1. Traditional Approach defines money supply as currency with public and demand deposits with commercial banks. Demand deposits are the current accounts of depositors in a commercial bank.
2. Monet arist Approach : Under this approach, money supply includes currency demand deposits and timedeposits. It emphasises on store of value function of money.
3. Gurley and Show approach : This approach includes demand and time deposits of banks along with liablities of non-banking intermediaries i.e. saving bank deposits, shares, bonds etc.
4. Radcliffe Committee Approach : Money supply covers the whole liquidity positionthat is relevant to spending decisions. Money supply includes crash, all kinds of bank deposits, deposits with other institutions, near-money assets and the borrowing facilities available to people.

1.2.4 Determinants of Money Supply

1. **Monetary base :** Magnitude of the monetary base is the significant determinant of the size of money supply. Monetary base refers to the supply of funds available for use either as cash or reserves of the central Bank. Monetary base changes due to the policy of the government and is also influenced by the value of money.
2. **Money Multiplier :** Money multiplier has positive influence upon the supply. **3. Reserve Ratio (r) :** It is an important determinant. The smaller cash reserve ratio enables greater expansion in the credit by banks and increases money supply and vice-versa.
4. **Currency Ratio: (c)** represents ratio of currency demand to the demand deposite as long as the r ratio is less than unity, a rise is the c ratio must reduce the multiplier.
5. **Confidence is bank Money :** General economic conditions affect the confidence of public is bank money. During Boom, confidence is bank money is high and vice versa.
6. **Time-Deposit Ratio :** (t) represents ratio of time deposits to demand deposits and has negative effect on money multiplier (m) and on money supply.
7. **Value of Money :** The value of money (I/P) in terms of other goods and services has positive influence on the monetary base and on money stock.
8. **Real Income :** has positive impact on money multiplier and money supplier.
9. **Interest Rate :** has positive impact on money multiplier and money supply.

10. **Monetary Policy :** It reserve requirements are raised the value of reserve ratio will rise, reducing the money multiplier and money supply and vice versa.

1.2.5 Kinds of Money

It is important to distinguish between two kinds of money : ordinary money (M), and high powered money (H). Ordinary money is the money as it is generally understood. It is narrowly defined as the sum of currency and demand deposits of banks (including the Reserve Bank of India) held by the people. Other deposits of Reserve Bank of India (RBI) which are included in M are generally ignored, since they form a very small proportion of M.

M = C + D (Currency + Deposits)

High-powered money (H) is money produced by the central bank (RBI in case of India) and the government and held by the public and banks. It is also known as "reserve money", 'monetary base', 'base money', 'primary money' or 'govt. money'.

High powered money in India is the sum of total currency with the public and bankers deposits-with the Reserve Bank, cash with banks, and other deposits with the RBI which are liabilities of the RBI to the non-bank sector. H = C + R (currency + reserves)

Money supply is also defined as the product of the money multiplier and the reserve base (i.e. high-powered money). While money multiplier is determined by various factors, the high-powered money is more or less exogenously determined by the central bank/ monetary authority.

Symbolically :- Ms=mH

Where Ms = money supply

m = money multiplier

H = high powered money

Now let us see why H is called "high powered money'.

We know that the central bank controls the issue of its liabilities. These liabilities, in turn, become the monetary assets that commercial banks use as reserves against their loans and investments. These assets are either currency or deposits of the commercial banks in the central bank, which are equivalent to and interchangeable with currency. The public also holds central bank stock because they comprise the base upon which the commercial banks are able to create demand deposits by the institution of fractional reserve banking. Changes in the quantity of central bank assets have the power to produce much larger changes in the volume of demand deposits, and for this reason they are called high-powered money. Thus, the quality of high-poweredness is the power of serving as the base for the multiple creation of demand deposits.

H, or high-powered money, is the single most important and dominant factor that determines the money supply. The theory of money supply is thus also called the Htheory of money supply. In the words of Suraj. B. Gupta, ".....calling it the H-theory focuses attention on the key variables in the whole drama of money-supply changes. It also provides the theory the standard technique of demand-supply analysis." It is also called the money-multiplier theory of money supply because money supply is the product of the money multiplier and the high powered money. While money multiplier is determined by various factors, the high powered money is more or less exogenous.

We will first explain the money multiplier process and then identify the factors affecting high powered money.

1.2.5.1 Self Check Exercise 1

1. What are the determinants of Money Supplier?

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1.2.6 Money Multiplier Process

For our purposes, money supply under investigation is the narrowly defined concept of money supply M = C + D.

Where C = currency in the hands of public, D = demand deposits with the commercial banks.

To determine money supply (Ms) is to determine currency (C) and demand deposit (D), i.e. we are to know the factors determining C and D. Thus, we are to discuss the behaviour of the public (which determines C) and the behaviour of the banks (which determines D).

In the simple case, assuming behaviour of the public as constant, we will see how money is created by the commercial banks with the following assumptions :

1. Choice of the public between holding of currency and deposits remains same, i.e., currency ratio (Cr = C/Ms remains constant.)

2. The bank lends all deposits upto the legal reserve requirement set by the central bank. In other words, excess reserves, i.e., reserves over and above the required reserves, get fully exhausted, (i.e. excess reserves=0).
3. The commercial banking system is composed of many banks* and that each of these banks is required by law to hold 20 percent cash reserves against its demand deposits. Cash reserves are the reserves of a bank held either as currency in its vaults or as deposit in the central bank. The bank assets are only in the form of reserve and loans, and its only liabilities are in demand deposits.

Let us suppose that there is a deposit of Rs. 1,000/- of currency in one of the banks in the system. This transaction increases both the demand deposits and the cash reserves of bank I which are shown by the T account in Table I(a}.

Table I T- Account of Bank I

Liabilities	**Assets**
(a) Demand Deposits + Rs. 1000	Cash Reserves + Rs. 1000
(b) Demand Deposits + Rs. 1000	Cash Reserves Rs. 200 Loans Rs. 800

As assumed the bank is required to hold 20 percent (= Rs. 200) of this new deposit in the form of cash reserves and by assumption the bank will put all of its excess reserves (Rs. 800) into earning loans. With this bank I's balance sheet is shown by T account in Table I-b.

Further, the borrower with Rs. 800 acts according to our assumption I. Accordingly, this amount takes the form of demand deposits with bank II (say). Bank II's balance sheet takes the form as given in table II-b. So with 2 percent of cash reserves ratio, Bank II keeps 800 x 20/100 = 160 in the form of cash reserves and excess reserves of Rs. 640 (800-160) in the form of loans.

Table II
T-Account of Bank II

Liabilities	**Assets**
(a) Demand Deposits Rs. 800	Cash Reserves Rs. 800
(b) Demand Deposits Rs. 800	Cash Reserves Rs. 160 Loans Rs. 640

1.2.7 Factors Affecting High-Powered Money

Now, H-the high powered money is normally assumed to be policy determined, i.e., considered as exogenously-given. However, in real life, this is not so. We recall that H comprises of government currency plus the Reserve Bank Money-all held by the public and banks. In the case of India, government currency comprises one rupee notes and the coins. The Reserve Bank money comprises all currency notes other than one rupee notes and coins, deposits of banks with RBI and other deposist of RBI. Of the total stock of H, government currency constitutes a small proportion, and Reserve Bank money is its dominant component. Also, changes in government currency are determined by changes in Reserve Bank money, as they are governed by the public's demand for small coins in relation to currency of higher denomination which is issued by the RBI. It follows that changes in Reserve Bank Money are virtually responsible for all observable changes in H.

Therefore, to identify the proximate factors governing H, the transactions of RBI

are divided into four sections :

(1) the government (2) banks (3) development banks, and (4) the foreign sector. The RBI provides them its credit, acquires its financial assets, and creates Reserve bank money in the process.

Reserve Bank Money	=	Net RBI credit to govt.
	+	RBI credit to banks
		+RBI credit to development financial institutions
s	+	RBI credit to commercial sectors
	+	Net Foreign Exchange Assets of RBI
		– Net non-monetary liabilities of RBI Let us

take these up one by one.

As banker to the government, the RBI provides credit to both the central and state governments through investment in their securities and short-term advances. The Central and State governments also keep their deposits with the RBI. The value of these deposits is deducted from the gross RBI credit to government to arrive at the net figure. This factor is the most important factor affecting H, and is the main source of reserve money (H).

The RBI provides credit to banks through loans and advances against government securities, promissory notes, or through rediscounting of bills. However, the RBI does not regard its purchase or rediscounting of bills as a part of credit to the banks, but classifies it as Reserve Bank credit to the sector which issued these bills originally. Thus, a part of Reserve Bank accommodation provided directly to banks is not counted as such.

Development banks, now called development financial institutions, which generally provide long term finance, are also given assistance by the RBI through loans and investment in their securities. This also generates H.

Net foreign exchange assets represent Reserve Bank credit to the foreign sector, and are mostly held in the form of foreign securities and cash balances. It regularly buys and sells foreign currency. When it buys foreign currency, supply of H increases. When it sells foreign exchange, it receives payment in the form of H and supply of H goes down.

Lastly, the net non-monetary liabilities of the RBI are largely the owned funds of the RBI and compulsory deposits of public. The larger these resources, the less it has to depend upon creation of new reserve money to finance various sectors. Hence this factor is entered with a negative sign in the equation of Reserve Bank Money.

Also, the change in Cash Reserve Ratio (CRR) for bank affects the amount of disposable H available to the public and banks, given the amount of total H. When the CRR is revised upwards some reserves are impounded by the RBI and when the CRR is revised downwards, some reserves get released. This is to say, that impounding of reserves reduces, and release of it adds to, the amount of disposable H. Such disposable H is generally called **adjusted H** in the analysis of money supply. It is also denoted as H*. The policy of the RBI to revise its CRR downwards in a phased manner increases the amount of disposable H.

Lastly, the very important question as to whether H is really an autonomous, policy determined variable, i.e., **whether H is exogenously determined by the monetary authority.**

Now, first of all, the term monetary authority might be synonymous with the central bank for a country like U.S., but in India, we have to consider the fact that the RBI is not autonomous to the government. The RBI is obliged to lend the central government any amount that it chooses to borrow and has no control over the deficit financing of the government (Although the practice of Ways and Means Advances has put a check on it, to some extent). Thus, the government shares the monetary authority of the RBI in a very active manner.

Secondly, H is not a fully policy determined variable because it is the decision of both the authority and the public as well as banks which lead to the generation or destruction of H. Banks and development banks can change H within narrow limits by varying their borrowing from the RBI; and net purchase/sales of foreign exchange by public can also change H.

Hence changes in H are autonomous as well as discretionary. Autonomous changes in
H are determined directly by the policy-making authorities-the government and the RBI, while endogenous changes in H are decided by the public, banks, and

development banks, given terms and conditions under which RBI is willing to produce such changes.

Thus, not all of H is an autonomous, policy-determined variable. However, in traditional economic analysis, it is taken as given.

1.2.7.1 Self Check Exercise 2

1 What is money multiplier?
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1.2.8 Summary

Thus, money supply process is the outcome of the forces of the public, banks and the central bank the public when it decides on its currency ratio, the banks when they decide on their excess reserve ratio, and the central bank when it sets reserve requirements on demand deposits. Thus, although the central bank is a major influence in determining m (money multiplier), it is certainly not the only influence. The size of the money multiplier is also the result of millions of decisions made by the banking system and the public. Although the central bank may exert a strong influence on m in the long run, it does not, and cannot, exercise short-run control.

1.2.9 GLOSSARY

a) **Monetary Base :** Supply of funds available for use either as cash or reserves of Central Bank.

b) **Reserve Ratio :** The cash reserves held by a bank.

c) **Currency Ratio :** Ratio of Currency demand to the demand deposits.

d) **Time Deposit Ratio :** Ratio of Time Deposits to demand deposits.

e) **High-Powered Money :** Money produced by the Central Bank and Government and held by the public and banks.

1.2.10 Questions for Exercise

1. Define money. Give its various functions.
2. Bring out the significance of money in a capitalist economy.
3. What is High Powered Money. Explain the money multiplier process.
4. Money supply is determined by public, commercial banks and policy variables. Explain.
5. Enlist the determinants of Money Supply.

6. Discuss the approaches to Money Supply.
7. **Short questions :**
   a) Reserve ratio.
   b) Currency ratio.
   c) Time Deposit ratio.
   d) Real income
   e) High-Powered Money
   f) Ordinary Money.

1.2.11 SUGGESTED READINGS

1. M.C. Vaish : Money, Banking & International Trade
2. D.M. Mithani : Money & Banking
3. M.L. Seth : Money, Banking & International Trade
4. M.Y. Khan : Indian Finacial System

B.COM. PART – III (Semester-V) **BCOU3509T**
MONEY AND BANKING

LESSON NO. 1.3 **AUTHOR : Dr.Harpreet Kaur Kohli**

Credit Creation

Structure

1.3.1 Objectives of the Lesson

After reading this lesson, the student shall be able to -
understand the process of credit creation.
- analyse the role of credit multiplier
- comprehend the limitations of Credit Creation

1.3.2 Introduction

The primary function of commercial banks is to accept deposits for the purpose of lending. A bank differs from other financial institutions because it can create credit. Banks have the ability to expand their demand deposits as a multiple of their cash reserve. When a bank advances loans, there tends to be multiple expansion of credit in the banking system. According to Sayers, "Banks are not merely purveyors of money, but also, in an important sense, manufacturers of money." A bank is an institution whose debts are widely accepted in settlement of other people's debts to each other. The demand deposits of a bank are regarded as money and changes in the amount of bank deposits mean changes in the stock of money. **1.3.3 Process of Credit Creation**

The whole structure of banking is based on credit. Credit means getting the purchasing power (i.e., money) now by a promise to pay at some time in future. In

the words of **Kent,** ***"Credit may be defined as the right to receive payment or the obligation to make payment on demand or at some future time on account of an immediate transfer of goods."*** 1 In a sense, the words credit, debt and loan are synonymous : credit or loan is the liability of the debtor and the asset of the bank. The word credit is derived from a Latin word 'credo', which means 'I believe'. The creditor believes that the debtor will return the loan and so decides to give the loan. Advancing credit or loan essentially depends upon the (a) confidence, (b) character, (c) capacity, (d) capital , and (e) collateral of the debtor.

Bank credit means bank loans and advances. A bank keeps a certain proportion of its deposits as minimum reserve for meeting the demand of the depositors and lends out the remaining excess reserve to earn income. The bank loan is not paid directly to the borrower but is only credited in his account. Every bank loan creates an equivalent deposit in the bank. Thus, credit creation means multiple expansion of bank deposits. The word 'creation' refers to the ability of the bank to expand deposits as a multiple of its reserves.

A bank's deposits can either be primary deposits created by cash deposited by customers, or derivative deposits created by bank loans and investment .The creation of primary deposits does not change the stock of money with the community as only the currency money is converted into deposit money. It is the derivative deposits which arise from granting of loans that increase the community's ownership of demand deposits without reduction of currency money with the community, consequently leading to rise in total stock of money with the community.

In short, multiple expansion of deposits is called credit creation and the ability of the banks to expand the deposits makes them unique and differentiate them from other non-bank financial institutions. Demand deposits are an important constituent of money supply and the expansion of demand deposits mean expansion of money supply.

In nut-shell, credit creation refers to the unique power of the banks to multiply loans and advances, and hence deposits. With a little cash in hand, the banks can create additional purchasing power to a considerable degree. It is because of the multiple credit creating power that the commercial banks have been aptly called the 'factories of credit' or 'manufactures to expand secondary deposits either through the process of making loans or through investment in securities."

1.3.4 Basic Concepts

In order to understand the process of credit creation, the proper knowledge of some basic concepts is necessary:

1. Bank as a Business Institution. Bank is a business institution which aims at maximising profits through loans and advances from the deposits. **2. Bank Deposits.** Bank deposits from the basis for credit creation. Prof. Halm has classified deposits into two types : (a) primary deposits : and (b) secondary or derivative deposits.

(i) Primary Deposits. When a bank accepts cash from the customer and opens a deposit account in his name it is called primary or passive account. The bank remains passive as regards this account. The creation of primary deposits does not mean creation of credit (or money). These deposits simply convery currency money into deposit money. However, the primary deposits from the basis for the creation of credit (or money). It is out of these deposits that the bank grants loans and advances.

(ii) Secondary or Derivative Deposits. When a bank grants loans and advances, it, instead of giving cash to the borrower, opens a deposit account in his name. This is secondary or derivative deposit. Every loan creates a deposit. It is called derivative deposit because it has been derived from the loan transaction of the bank. Since the bank plays and active role in creating derivative deposits, they are also called active deposits. Creation of derivative deposits means creation of credit (or money). With the creation of these deposits, money supply in the form of bank deposits is increased.

3. Cash-Reserve Ratio. The banks need not hold all their deposits in reserve. From their general experience, they know that all depositors will not withdraw all deposits at the same time. Therefore, they keep a fraction of the total deposits for meeting the cash demand of the depositors and lend out the remaining excess deposits. The percentage of total deposits which the bank are required to hold in cash reserves for meeting the depositors 'demand for cash is called cashreserve ratio.

4. Excess Reserves. The reserves that a bank holds above the required cash reserves are called excess reserves. Excess reserves are equal to total reserves (or total deposits) minus required reserves. It is the excess reserves out of which the loans are granted and thereby the credit is created.

5. Credit Multiplier. The banks can multiply a given amount of cash to many times of credit. In the process of multiple credit creation, the total amount of derivative deposits created by the banks will be a multiple of the initial excess reserves. The ratio between the total amount of derivative deposits and the initial amount of excess reserves is known as the Credit multiplier. If the initial excess reserves of Rs. 1000 produce total derivative deposits of Rs. 5000, then the credit multiplier is 5.

$$\text{Credit multiplier} = \frac{\text{Total derivative deposits}}{\text{Initial excess reserves.}} = 5000/1000=5$$

Credit multiplier is the reciprocal of cash-reserve ratio, i.e, credit multiplier =1/cash-reserve ratio.

Self Check Exercise 1

1. What is Primary Deposit?

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1.3.5 Credit Creation by Single Bank

The process of credit creation can be analysed in two ways : (a) credit creation by a single bank ; and (b) credit creation by the banking system as a whole. In the single bank system, only one bank operates and all the cash deposits and cheques are to be made with this bank alone. The process of credit creation by a single bank can be illustrated with the help of a hypothetical example :

Suppose the customary cash-reserve ration maintained by the bank is 20%. Now, if person A deposits Rs. 1000 with the bank, the bank does not keep the entire cash in reserve but only the 20% of it to meet the day-to-day cash demand. Thus, after keeping Rs. 200 (i.e, 20% of Rs. 1000), the bank lends the remaining Rs. 800 to person B by opening a credit account in his name. Again, keeping 20% of Rs. 800 160) to person C. Similarly, keeping 20% of Rs. 640 (i.e., Rs. 128), the bank advances Rs. 512 (i.e. Rs. 640-128 =512) to person D, and so on. This process will continue till the initial primary deposit of Rs. 1000 and the initial excess reserves of Rs 800 lead to additional (derivative) deposits of Rs. 800+640+512+..... =Rs. 4000. By adding up all the deposits (i.e, primary plus derivative), we get total deposits of Rs. 5000. Here credit multiplier (which is the reciprocal of the cash-reserve ratio, i.e. 20%) is 5 and the credit creation (or the total derivative deposits, i.e., Rs. 4000) is five times the initial excess reserves (i.e., Rs. 800). The process of credit creation in a single bank system is also explained in Table 1.

Table1 shows the following points : (a) On the basis of the cash-reserves ratio of 20% and with the initial primary deposits of Rs. 1000, the bank creates derivative deposits (i.e, credit) of Rs. 4000 and the total demand deposits will be Rs. 5000, (i.e, primary plus derivative deposits). (b) The credit expansion (i.e, Rs. 4000) is five times the initial excess reserves (i.e., Rs. 800). (c) the Credit multiplier will be 5, i.e,

$$\text{or} \quad = \quad \frac{1}{\text{Cash-reserve ratio (r)}} \quad = 1/.2 = 5$$

Table 1 : Credit Creation by a Single Bank

Rounds	Primary Deposits	Cash Reserves r =20%	Credit Creation or Derivative Deposits (ΔD)

1. Person (A)	Rs. 100 (Initial Primary deposits)	Rs. 200	Rs.800 (Initial excess reserves ΔR)
2. Person (B)	800	160	640
3. Person (C)	640	128	512
4. Person (D)	512	102	410
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----	----	----	----
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Total	5000	1000	4000

1.3.6 Credit Multiplier

Credit Creation depends upon the ratio of cash reserves to deposits. The credit or the deposit multiplier is: k = 1/r ; where k is the credit multiplier and r is the cashreserve ratio. Thus, credit multiplier is the reciprocal of cash-reserve ratio. If cashreserve ratio is 20% then

$$K= 1/r = 1/.2 =5$$

The higher the cash-reserve ratio, the lower will be the credit multiplier, the lower the cash reserve ratio, the higher will be the credit multiplier.

The additional aggregate deposits **(**ΔD) or the creation of derivative demand deposits or the potential credit creation will be the initial excess reserve **(**Δ**R)** multiplied by the credit multiplier (k) or the inverse of cash-reserve ratio (r), i.e,

$$\Delta D = k\,\Delta R = \Delta R/r$$

where, ΔD = Derivative deposits;

ΔR = Initial excess reserves which are measured as initial primary deposits minus reserves requirements.

r = Cash-reserve ratio ; and k = Credit multiplier

If, for example, the commercial banks get new deposits of Rs. 10 crore and the cash-reserve ratio is 20%, the additional aggregate deposits will be ΔD = ΔR/r = Rs. 10 crore x 5 = Rs. 50 crore

Algebriacally, the formula for additional aggregate deposits i.e, ΔD - ΔR/r, can be derived in the following manner :

The process of credit creation can be expressed as the sum of geometry series i.e.,

$\Delta D = \Delta R + (1\text{-}r)\,\Delta R + (1\text{-}r)^2\,\Delta R + \ldots\ldots\ldots + (1\text{-}r)^{n-1}\,\Delta R$ .....(1)

Multiplying Equation (1) by 1-r

$(1\text{-}r)\,\Delta D = (1\text{-}r)\,\Delta R + (1\text{-}r)^2\,\Delta R + (1\text{-}r)^3\,\Delta R + \ldots\ldots\ldots + (1\text{-}r)^n\,\Delta R$ .....(2)

Subtracting Equation (1) from (2)

$\Delta D - \Delta Dr - \Delta D = [(1\text{-}r)\,\Delta R + (1\text{-}r)^2\,\Delta R + (1\text{-}r)^3\,\Delta R + \ldots + (1\text{-}r)^n\,\Delta R] - [\Delta R + (1\text{-}r)\,\Delta R + (1\text{-}r)^2\,\Delta R + \ldots + (1\text{-}r)^{n-1}\,\Delta R]$ .....(3)

or $-\Delta Dr = -\Delta R + (1\text{-}r)^n\,\Delta R$ .....(4)

When $n \longrightarrow a$, the value of $(1\text{-}r)^n\,\Delta R$ tends to zero. Thus,

$$\Delta D = \Delta R/r$$

1.3.7Assumptions. The credit multiplier is based on the following assumptions.

(a) The cash-reserve ratio remains constant through all the stages of credit creation process.

(b) The banks adjust their assets in such a manner as to maintain a fixed relationship between their deposit liabilities and cash reserve.

(c) There is no leakage in the credit creation process. This means (a) the excess reserves are turned into derivatives through granting loans (b) the derivative deposits, in turn, become primary deposits with the banks.

(d) There is well-developed banking system in the country and the people have banking habits.

(e) The central bank does not adopt any credit control policy.

(f) There exist normal business conditions in the country.

The reciprocal of the required cash-reserve ratio gives the maximum credit (or deposit) multiplier. But, in the actual world, the maximum multiplier is never achieved. Empirical estimates show that the real world money multiplier is only about one-third of the maximum money multiplier. This is partly because the banks actually hold some excess reserves and partly because the borrowers from the banks do not keep the entire amount of loan money in the banks, thus leading to currency drain.

1.3.8 Multiple Credit Creation by Banking System

In the real world, there are many banks in existence comprising multiple banking system. Whereas a single bank cannot lend beyond the amount of excess reserves, the banking system as a whole can do what a single bank cannot do. The banking system can grant loans many times the excess reserves of cash created for it. When an individual bank creates derivative deposits, it loses cash to other banks, the loss of deposit of one bank is the gain of deposit by some other bank. This transfer of cash within the banking system creates, in turn, primary deposits and increases the possibility for a further creation of derivative deposits by the banks receiving cash. This process of the banking system to increase credit many time more than the initial excess reserves is called multiple credit creation.

The process of multiple credit creation can be explained with the help of an example. Suppose, with the initial primary deposit of Rs. 1000 and the cashreserves ratio of 20%, bank A has initial excess reserves of Rs. 800 (i.e. Rs. 1000 minus 20% of Rs. 1000 = Rs. 800). The bank creates derivative deposits equal to its initial excess reserves of Rs. 800 by grating loans to the borrowers. The borrowers make payments of Rs. 800 by cheques to other people who are the customers of bank B. The cash-reserve ratio being 20%, the excess reserves of who are the customers of bank B. The cash-reserve ratio being 20%, the excess reserves of bank B are Rs. 640 (i.e. Rs.800 minus 20% of Rs. 800 = Rs. 640) which it converts into derivative deposits by giving loans to borrowers. Further, the borrowers from bank B make payment of Rs. 640 by cheques to some people who are the customers of Bank C. This creates the primary deposits of Rs. 640 in bank C, which, in turn, leads to the creation of excess reserves and derivative deposits of Rs. 512 (i.e., Rs. 640 minus 20% of Rs. 640 = Rs. 512) in bank C.

This process will continue until the initial primary deposits of Rs. 1000 with bank A lead to the creation of total deposits (primary plus derivative) of Rs. 5000 and the initial excess reserve of Rs. 800 in bank A leads to the multiple expansion of total derivative deposits of Rs. 4000 in the entire banking system. Thus, credit creation or the creation of the derivative deposits (ΔD) by the banking system will be Rs. 800+640+512 +.... =Rs. 4000, i.e, 5 times of the initial excess reserves (ΔR) of Rs. 800.

Table 2 illustrates the process of credit creation by the banking system. It makes clear the following points. (a) Initial Primary deposits of Rs. 1000 in bank A leads to the expansion of total deposits of Rs. 5000. (b) Initial excess reserve of Rs. 800 create multiple derivative deposits of Rs. 4000. (c) The credit creation (i.e, Rs. 4000) is five times the initial excess reserves (i.e, Rs. 800). (d) The credit multiplier.

$$= \frac{\text{Total derivative deposits } (\Delta D)}{\text{Initial excess reserves } (\Delta R)} = 4000/800 = 5$$

$$\text{or} \quad = \frac{1}{\text{Cash - reserve ratio } (r)}$$

$$= 1/.2 = 5$$

Table 2 : Multiple Credit Creation By Banking System

Rounds	**Primary Deposits**	**Cash Reserves**	**Credit Creation r=20% or Derivative Deposits (ΔD)**
A	Rs. 1000 (Initial Primary deposits)	Rs.200	Rs. 800(Initial excess reserves ΔR)
B	800	160	640
C	640	128	512
D	512	102	410
----	----	----	----
----	----	----	----
----	----	----	----
Total	5000	1000	4000

1.3.9 Destruction of Credit

Banks create credit by granting loans (i.e. by creating derivative deposits) to the public. Similarly, the banks can destroy by reducing loans. The extent of destruction of credit depends upon cash-reserve ratio. Higher the cash-reserve ratio, greater will

be the destruction, of credit ; lower the cash-reserve ratio, smaller will be the credit destruction. For example, assuming the cash-reserve ratio to be 20%, an initial reduction of Rs. 1000 in bank A will lead to a reduction of deposits of Rs. 800 in bank B, of Rs. 640 in bank C and so on. This process of credit contraction will continue till the total deposits in the banking system are reduced by Rs. 5000. Thus, the process of credit contraction is exactly the same as the process of credit creation, but works in the opposite direction.

1.3.10 Limitations of Credit Creation

Theoretically, the banking system can create unlimited amount of credit through expansion of deposits. But in reality, the powers of banks to create multiple credit or deposits are subject to a number of limitations as explained below:

1. Amount of Cash : The extent of credit creation primarily depends upon the amount of cash possessed by the banks. Larger the amount of Cash with the banking system, greater will be the credit creation, and vice versa. In the words of Crowther, "The bankers' cash is the level with which the whole gigantic system is manipulated." Thus, the power of create credit is limited by the bank's cash.

2. Cash-Reserve Ratio. The size of credit multiplier is inversaly related to the cash-reserve ratio. The higher the cash-reserve ratio, the smaller will be the volume of credit creation and vice versa.

3. Leakages. The actual credit creation by the banking system may be considerably smaller than the potential credit creation due to certain leakages. There are at least two such leakages in the credit creation process :

(i) Excess Reserves. The banks may not be willing to utilise their surplus funds for granting loans and may decide to maintain excess reserves. Such a situation arises (a) when there is fear of significant rise in future interest rates or (b) when the economy is heading towards a recession. The greater the excess reserves, the smaller the credit multiplier.

(ii) Currency Drains. The credit creation multiplier mechanism assumes that the amounts of loans granted by the banks return to them by way of new deposits. But the public may not keep the whole amount of loans in the banks and may withdraw some cash to hold it with themselves. This cash withdrawal or currency drain reduces the power of the banks to create credit.

4. Availability of Borrowers. Banks create credit by means of loans and advances. Therefore, the extent of credit creation depends on the availability of borrowers. If there are no borrowers, there will be no credit creation.

5. Availability of Securities. Bank loans are granted against securities. Thus, the power of the bank to turn other assets into money (i.e. to create credit) is restricted by the availability of good securities.

6. Credit Policy of Other Banks. All banks may not adopt the same credit policy. If some banks decide not to utilise their full capacity for credit creation and

keep large cash reserves, the credit creation in the country will be limited to that extent.

7. Banking Habits. Development of banking system and the banking habits of the people also influence the extent of credit creation. If people prefer to make transactions through cash and not by cheques, the banks will be left with a smaller cash and there will be lesser credit creation. Banking habits, in turn, depend upon the development of banking system. In the developed economics due to the large expansion of banking facilities, the banking habits are more conductive to credit creation than in developing economics.

8. Business Conditions. Credit creation is further limited by the nature of business conditions. During depression, when due to low profit expectations businessmen do not come forward to borrow from banks, credit creation will be very small. On the other hand, during the period of business prosperity, the profit expectations are high, the businessmen approach the banks for loans and there will be greater credit creation. Hence, credit creation will be smaller during depression and larger during business prosperity.

9. Monetary Policy. The extent of credit creation largely depends upon the monetary policy of the central bank of the country. The central bank has the power to influence the money supply in the country. It can use various methods of credit control to influence the banks to expand and contract credit.

Self Check Exercise 2

1. What are the limitations of Credit Creation?

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1.3.11 Summary

The whole structure of banking is based on credit. Credit means getting the purchasing power (i.e., money) now by a promise to pay at some time in future. Bank credit means bank loans and advances. A bank keeps a certain proportion of its deposits as minimum reserve for meeting the demand of the depositors and lends out the remaining excess reserve to earn income. The bank loan is not paid directly to the borrower but is only credited in his account. Every bank loan creates an equivalent deposits in the bank. Thus, credit creation means multiple expansion of bank deposits.

1.3.12 GLOSSARY :

(a) Primary Deposits : When a bank accepts cash from the customer and opens a deposit account in his name, it is called primary deposit.

(b) Secondary Deposit : When a bank grants loans and advances, it instead of giving cash to the borrower, opens a deposit account in his name, it is called secondary deposit.

(c) Credit Multiplier : The ratio between the total amount of derivative deposits the initial amount of excess reserves.

1.3.13 QUESTIONS FOR EXERCISE

1. What is credit creation ? What concepts are involved in the credit creation ?
2. How do the banks create credit in a single bank and a multiple bank system?
3. Explain the concept of credit multiplier and discuss its importance in the real world ?
4. Examine various limitations of credit creation ?
5. Commercial banks can only lend to the public to the extent that the members of the public have lent their money to them. Discuss.
6. Short notes

(a) Primary Deposits
(b) Derivative Deposits
(c) Cash Reserve Ratio
(d) Credit Multiplier
(e) Excess Reserves

1.3.14 SUGGESTED READINGS

1. M.C. Vaish : Money, Banking & International Trade
2. D.M. Mithani : Money & Banking
3. M.L. Seth : Money, Banking & International Trade
4. M.Y. Khan : Indian Finacial System

B.COM. PART – III (Semester-V) **BCOU3509T**

MONEY AND BANKING

LESSON NO. 1.4 **AUTHOR : Dr.Harpreet Kaur Kohli**

Interest Rates in India

Structure

1.4.1 OBJECTIVES OF THE LESSON

After studying this lesson, the student shall be able to

- understand the system of administered interest system and deregulated interest rate system
- understand the various theories of Interest Rates
- understand the term structure of Interest Rates in India.

1.4.2 INTRODUCTION

The Rate of Interest occupies an important place in economic activities. In common language, interest is a payment made by a borrower to the lender for the use of money and is expressed as a rate per cent per year. According to Keynes, Interest is "the premium which has to be offered to induce the people to hold their wealth in some other form other than hoarded money.' Rate of Interest has a lot of practical significance in the modern commercial world:

- It induces people to save from their incomes and provides capital for productive purposes.
- It measures the opportunity cost of various productive channels and helps allocating savings among them.
- It regulates the flow of investible funds and influences the growth and direction of business activity.

The policy, structure, level, trends of interest rates in India have their own peculiar nature and varied behaviour. Important aspects of interest rates in India will be discussed in this chapter.

1.4.3 INTEREST RATE POLICY OVER THE YEARS : The interest rates in India in the past can be studied under the three phases since1950.

Phase I (1950-60). This phase was characterised by more or less free interest rates.

Phase II (1961-85). This phase was characterised by 'administered ' or 'regulated' or 'repressed' interest rate system.

Phase III (1985-onward). This is the phase of gradual and progressive deregulation of interest rates which started started in 1985, received a big push in 1991, and is still continuing.

1.4.4 SYSTEM OF ADMINISTERED INTEREST RATES:

During 1961-85, the interest rates in India were determined by the monetary authorities.

Moreover, the breadth and depth of intervention had increased overtime. Some of the prominent examples of administered interest rates are gives below:

(i) The deposit and lending rates of commercial and cooperative banks were fixed by the authorities.

(ii) Cooperative societies were required to accept deposits at higher rates, and to lend at lower rates than the rates of commercial banks.

(iii) The Indian Banks Association had been fixing the ceiling on call rates.

(iv) The Controller of Capital Issues fixed the ceiling on coupon rates on industrial debentures and preference shares.

(v) The government fixed the rates on treasury bills and long-term government securities.

(vi) The governments was also actively involved in the fixation of interest rates of long-term loans of term financing institutions.

(vii) The RBI fixed different rates on loans to different categories of borrowers and on loans for different purposes.

(viii) The RBI also fixed interest rates on different financial instruments, such as commercial bills.

1.4.5 Defects of Administered Interest Rate System

Chakravarty Committee (1985) has mentioned the following major deficiencies of the system of administered interest rates:

i. This system had grown to be unduly complex, and it contained features which had reduced the ability of the monetary system to promote the effective use of credit.
ii. The low yields on treasury bills and government securities had resulted in high level of monetization of public debt and consequent monetary expansion.
iii. The captive market for government securities had adversely affected the growth of capital market and the profitability of banks.
iv. Concessional rates of interest had allowed projects of doubtful viability to be undertaken.
v. Quantitative credit controls had come under severe stress in the absence of support from any price rationing mechanism.
vi. The system had lacked the flexibility necessary for increasing the pool of financial savings.

1.4.6 System of Deregulated Interest Rates

In view of serious deficiencies in the regulated interest rate system, Chakravarty Committee had strongly recommended the replacement of regulated interest rate system by the system of free and flexible interest rates. Free and flexible rates would be more conducive for the promotion of (a) saving, (b) efficiency of financial system, (c) efficiency of investment, (d) efficiency of monetary policy, and (e) efficiency in government finances.

The authorities have now liberalised the system by allowing the interest rates to be determined by market forces :

(i) The ceiling on call rate has been removed.
(ii) Most of the money market rates have been deregulated.
(iii) The bank rate has been activated
(iv) The interest rates on treasury bills, certificates of deposits (CDs), commercial papers (CPs), and inter -bank participation have become free, flexible and market determined.
(v) Deposit rates and lending of commercial banks, RRBs, cooperative banks, and various non -bank financial institutions have been deregulated.

1. Implications of Deregulation

Certain implications of deregulation for the likely behaviour of interest rates in the near future are mentioned below:

(i) Interest rates are likely to increase.
(ii) Economic units would face a higher degree of risk and uncertainty.
(iii) Instability of interest rates would be higher. This would lead to increase in instability of the financial system as a whole.

1.4.7 Appropriate Interest Rates Policy

The authorities have now liberalised the system by interest rates to be determined by market forces.

- In a deregulated set- up, banks and financial institutions have begun fixing and announcing their respective prime lending rates.
- The deregulated system of interest rates might lead to greater uncertainty, risk and variability of interest rates.
- The deregulation of interest rates and the consequent increase in interest rates have been criticised in certain quarters. There has been a constant demand from these quarters for the lowering of interest rates in India in order to reduce the burden of interest cost and for making the equities more attractive to investors.
- The demand for cheap money policy in India is not convincing.
- In an economy like ours where the common man continues to tighten his belt and save greatly out of his income, it is the duty of the government to reward him adequately.
- The low interest rates are also not in the interest of business and industry. They reduce both the willingness and capacity of banks to supply funds to them.
- At the same time, interest rates cannot be allowed to attain an unduly high level. Unrestrained competition in financial market can lead to over-shooting of interest rates, financial and economic instability, and low growth rate.
- There is a need to evolve a 'flexibly regulated' system of interest rates to achieve an appropriate level of interest rates in India.

1.4.8 Term Structure Of Interest Rates

The theories of interest normally discuss the determination of one uniform rate of interest. But, in reality, what we find is not a single uniform rate of interest but a number of rates of interest prevailing in the market. Interest rates differ from each other on the basis of the nature of the loan, the credit worthiness of the debtor, tax conditions, term to maturity etc. Other things being the same, the difference in the rates of interest on account of the term to maturity of debt is called the term structure of interest rates. The term of maturity refers to the time period at the end of which a particular loan becomes payable. If we consider a set of loans which differ from each other only in their term of maturity and nothing else, then, at any given point of time, the set of interest rates relating to those different maturities will be called the term structure of interest rates. Or, alternatively, the term structure of interest rates represents the relationship between short-term interest rates and long-term interest rates in the markets for credit instruments with similar risks Symbolically, at any given time, t, the term structure for asset A is given by :

$$ {}_tR_1^a \, , \; {}_tR_2^a \, , \; {}_tR_3^a \, , \ldots\ldots\ldots\ldots $$

Where R denotes the rate of interest, prescript 't' denotes the time when this rate applies, subscripts 1,2,3,..... denote different maturities of the asset and superscript 'a' identifies the asset. There are as many term structures of interest

rates as the type of loans in the market. Again, a given term structure of interest rates is not a constant entity ; it can change with the passage of time.

The curve showing the relation between yield and the terms of maturity is called yield curve. The yield curve gives in graphic form the term structure of interest rates. The term yield is synonymous with interest rate. In the case of a nonmarketable security, the yield is only the nominal payment of interest from the debtor to creditor. But, in case of marketable security, the yield to creditor includes not only the payment of interest rate, but also capital gain or loss resulting from the sale of the security by the creditor in the market. Morever, when we move from shorter to longer maturity securities, the chance of capital gain or loss increases because of greater fluctuations in the security market. In short, in the analysis of term structure of interest rates, the term 'rates of interest' implies yield to maturity or effective yield (i.e. the yield on a loan of a given maturity) which includes nominal coupon interest payment and capital gain/loss, and not nominal yield including only nominal coupon interest payment. The theory of term structure of interest rates primarily deals with the following questions:

(i) What is the relationship between interest rates of different maturities in a given term structure? For example, do the interest rates increase, fall or remain unchanged as we move from shorter to longer maturities? In other words, what is the shape of yield curve?

(ii) If one of the interest rates changes, what is the effect on other rates? Do they also change in the same direction and in the same proportion? Is it that they are not affected at all? Is it that different maturities are affected unevenly?

There are three main theories of terms structure of interest rates : (a) Expectations theory, (b) Liquidity Premium theory, and (c) Market Segmentation Theory .

1.4.8.1 Self Check Exercise 1

1. What are the features of deregulated interest rates system?

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1.4.9 Expectations Theory

According to the expectations theory, the expectations regarding future interest rates determine the present term structure of interest rates. The theory explains the different shapes of the yield curves in terms of substitutions that investors are likely to make as a result of the change in their expectations concerning future interest rates.

1. Role of Expectations

Consider an investor who wishes to invest Rs. 100 for two years. He has two options: (a) he can invest for the whole two years, or (b) he can invest for one year and then reinvest both principal and interest for one more year at the rate of interest which is expected to prevail after one year. Naturally, the investor's expectations about next year's rate of interest is very important in deciding between the two options.

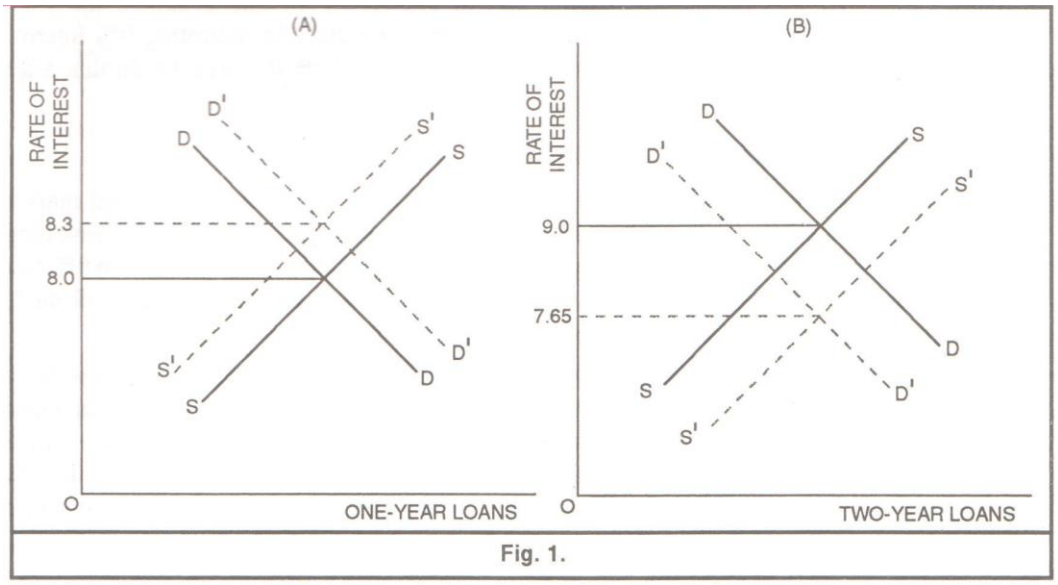

Fig. 1.

For example, if the current rate of interest on two-year loans is 9% the investment of Rs. 100 now will give a return of Rs. 118.81 after two years, i.e., Option I : Rs 100 $(1+0.09)_2$ = Rs 118.81 after two years.

If the current rate of interest on one-year loans is 8% and the expected rate of interest on one-year loans one year from now is 10.01% it will be possible for the investor to invest Rs. 100 now at 8% and get Rs. 108 after one year and reinvest the same Rs. 108 at 10.01% for another year, yielding Rs. 118.81.

Option II : Rs. 100 (1+0.08) = Rs. 108 after one year.

Rs. 108 (1+0.1001) = Rs. 118.81 after two years.

It is clear from this example that if the investors expect that the rate of interest for one-year loans one year from now will be 10.01%, they will find no difference between investing for two years at 9% (i.e. option I) and investing for one year at 8% and second year at 10.01% (option II) because both the options will have the same return. (i.e, Rs. 118.81 after two years.) So long as the expected rate of 10.01% for one-year loans in one year's time persists, there will be no change in the current

term structure of interest rates (i,e., 8% and 9% for one and two-year loans respectively).

The equilibrium term structure of 8% and 9% rates of interest for short-term and long-term loans respectively (in this example, for one and two-year loans respectively) is shown in Figure 1A and B. 8% rate of Interest is represented by the intersection of demand and supply curves for one-year loans (DD and SS curves respectively). in Figure 1A. Similarly, 9% rate of interest is represented by the intersection of the demand and supply curves for two-year loans (DD and SS curves respectively) in Figure 1B. In this situation, the yield curve is an upward sloping curve (like the one shown in Figure 2A) indicating 9% interest rate for twoyear loans and 8% interest rate for one-year loans with the expectations that after one year the rate of interest on one-year loans will be 10.01 %.

2. Conclusions of Expectations Theory

Various conclusions of the expectations theory of term structure are given below :

(a) Changes in the expectations concerning the future market rates of interest are the major determinant of the changes in the term structure of interest rates.

(b) The investors-follow the arbitrage process, i.e, they switch between long and short-term loans in accordance with the changes in the expectations until a long-term loan provides the same yield as the series of short-term loans for the same period of time. In other words, the money and capital markets adjust quickly to changes in expectations so that these markets can be reasonably assumed to be always in equilibrium.

(c) If the market rate of interest is expected to rise in future, the borrowers shift from shorter to longer maturity loans and the lenders shift from longer to shorter maturity loans. As a consequences, the short-term rate of interest 'falls and the long-term rate of interest rises. Or, in other words, the yield on short-term loans falls and the yield on long term loans rises.

3. Limitations

The expectations theory of term structure suffers from the following limitations :

(a) The theory assumes that expectations held by the market actually materialise so that the expected rates do become reality. Critics point out that the expectations need not come out to be true. Therefore the investors many times revise their expectations in the light of their experience through error - learning process.

(b) The theory implicitly assumes that the authorities are not capable of influencing the term structure by public debt management and changes in the supply of credit. In reality, the authorities, by changing the total amount of public debt and by changing its maturity composition, are able to influence the term structure of interest rates.

(c) The theory also wrongly assumes that the investors are able to make precise and correct expectations regarding the future behaviour of short-term rates of interest. This is demanding too much information from the investors.

(d) It is a theory in which short-period interest rates are used as causes and long-period rates as the effect. It is possible to formulate a theory in which long-period rates are used as the cause to explain the determination of short-period rates. What is thus needed is to explain why longer maturity rates should be dependent upon shorter maturity rates and not the other way round.

In spite of these limitations, the expectations theory is not only widely accepted as a better theory of term structure of interest rates but also has been found empirically valid. The results of various studies have tended to give strong support to the expectations theory, particularly to its modified version which accepts the existence of a liquidity premium on long-term bonds.

1.4.10 Liquidity Premium Theory

The liquidity premium theory accepts the expectations approach that expectations of changes in the interest rates affect the term structure of interest rates. But, it maintains that the expectations are not the only factor influencing the term structure; liquidity factor also explains part of this structure. If the expectations theory is correct, then there are equal chances of having yield curves sloping upward to the right or sloping downward to the right. But, in reality, the yield curves tend to slope upward to the right on more occasions than they slope downward. To get an explanation of this fact, the liquidity premium theory of the term structure should be added to the expectations theory.

According to the liquidity premium theory, the interest rate on long-term maturities is higher than that on short-term maturities (or the yield curve slopes upward to the right) because a liquidity premium must be added to the yields of long-term maturities. The theory is based on the fact that interest-rate risk is more on the longer maturity securities. As a result of change in the rate of interest, there is small chance of making a capital loss (as a result of a fall in the interest rate) and a small chance of making a capital gain (as a result of a rise in the interest rate). But, with the increase in the length of maturity, the risk of capital loss (or gain) also increases. Investors being risk averters, prefer securities with shorter maturity. Therefore, premium must be added to the return of longer-term maturities to attract the risk-averse buyers. In this sense, the liquidity premium factor always causes longer-maturity rates to be higher than the shorter-maturity.

In view of the greater interest-rate risk on long-term securities some investors may attempt to forgo some expected return in order to hold short-term securities. Even though the investor takes decision primarily on the basis of his expectations about the future course of interest rates, he is also aware that the expectations may not come true. For example, a cautions investor will certainly prefer a return of 6.25% on short-term securities to a return of 6.50% on long-term securities that will be earned only if his expectations are realised. If this is true, then the short-term interest rates would always be lower than it might have been if the structure of rates of interest had been determined by expectations alone. **1. Limitations**

Though the liquidity premium theory is an improvement upon the expectations theory and the latter should be augmented by the former, still it is criticised on the following grounds :

(i)The theory takes for granted the role of liquidity premiums. But, in reality, different investors do not have the same degree of risk aversion. This makes it difficult to determine liquidity premium.

(ii)Again, since change in the interest-rate risk is not proportionate to the change in maturity, it is not possible to determine in advance the liquidity premium for maturity for a given level of interest rate.

(iii)The theory also does not explain the formulation of expectations and changes therein. The problem of explaining the changes in the expectations becomes all the more significant when the investors find their expectations not materialising. The theory does not explain how the expectations are modified in such a situation.

1.4.11 Market Segmentation Theory

The market segmentation theory has been developed as an alternative to the expectations theory. It denies the basic assumptions of the expectations theory that a great deal of substitution can occur between securities with different maturities. On the contrary, the market segmentation theory is based on the fact that the security markets are dominated by large financial institutions that cannot easily make the kind of substitution that the expectations theory needs.

The market segmentation theory maintains that interest rates are determined in several separated or segmented markets. Buyers and sellers of credit instruments specialise in credit instruments of different maturities and are not considered good substitutes. For example, commercial banks have primarily short-term liabilities and therefore the credit instruments they purchase are short-term. Life insurance companies, on the other hand, have long-term liabilities and tend to purchase longterm instruments.

According to the market segmentation theory, since the credit instruments of different maturities are traded in segmented markets, the yield curve results from the interplay of several supply and demand functions and can take any shape. For example, an increase in the supply of long-term securities will tend to reduce their price and hence raise their yield (rate of interest), without affecting the rate of interest on short-term securities. This will give a yield curve, sloping upward to the right. Similarly, an increase in the supply of short-term securities will tend to reduce their price and thus the rate of interest on these short-term securities will rise, without affecting the interest rate on long-term securities. This results in a yield curve sloping downward to the right.

The market segmentation theory has important implications for monetary policy in the economics where markets are truly segmented. Monetary authorities can operate in either long-term or short-term credit markets without having any significant impact on other credit markets. For example, monetary policy can be operated in the short-term markets with an objective of raising short-term interest rates to encourage foreign money inflows or to reduce money outflows or to lesson a balance

of payment problem. Again monetary policy may operate in long-term markets to lower the long-term interest rates to encourage domestic capital expansion.
There is no doubt that in practice, segmentation of financial markets does exist and also influence the term structure of the interest rates. But, it is not clear that the segmentation is as clear as the theory requires. In reality, the markets in which investors and institutions function largely overlap. For example, the commercial banks may not consider purchasing a 30-year bond but may be willing to consider any maturity upto ten years. Saving banks may operate in 5to 10-years maturity range. The life insurance company may not consider any under ten years, but may be interested in any longer maturities. In this way, the degree of overlap may be large enough so that the market as a whole may produce results similar to those expected under the expectations theory.

1.4.12 Term Structure Of Interest Rates In India

Other things being the same, rates of interest also differ according to term to maturity of debt. The resulting is called the term structure of interest rates and the curve showing the relation between yield and term to maturity is called yield curve. Low short-term interest rates and high long-term rates indicate upward-sloping yield curve and, on the contrary, high short term rates of interest rates and low long-term rates show downward-sloping yield curve.
Term structure of interest rates in different spheres of India are briefly discussed below:

1. Corporate Market. Corporate market is considered a heterogeneous market for the term structure analysis. As a result the observed differences in rates of interest on different maturity debt cannot be attributed to differences in term to maturity alone.
Additionally, in India, the market for this kind of debt is not well-developed; it is both narrow and shallow. Moreover, (a) the institutional investors generally do not trade in securities, and (b) private dealers are small and unimportant. As a result of all these factors, full significance of differences in term to maturity for market determined interest-rate differences cannot be easily assessed and analysed in the corporate sector in India.

2. Gilt-Edged Market: Much theoretical and empirical work has been done on term structure of interest rates in the USA. But this work is of little relevance in Indian situation. The reason for this is that in the Indian gilt-edged market, the treasury-bill rate and administrated rate and other rates of Interest are controlled by the RBI.
As far as the yields on government securities are concerned, the demand for longterm securities has increased. The reasons for this are as follows :

(i) Because of the ready and continuous support to the market by the authorities, the institutions have recognised that long term securities are as liquid as short term securities.

(ii) There has been an increase in the resources of investors like LIC, provident funds etc., which are the major buyers of long term securities.

Finding the ready market for long term securities, the authorities have been issuing these securities at relatively low coupon rates in order to minimise the cost of public debt.

3. RBI Controlled Rates. In the case of RBI controlled rates of interest, the yield curve is upward sloping. (a) For treasury bills, the short-term rate is pegged lower than the long-term rate. (b) There is much greater spread allowed on deposits of banks of different period; the rates of interest on 15 to 45 days deposits are much lower than the rates on fixed deposits of more than 5 years.

4. Financial Institutions. The administered lending rates of financial institutions on loans and advances show a reverse term structure; that is, the rates of interest on term loans by development banks are generally lower than the rates of interest charged by commercial banks on their short-term commercial credit.

This policy has been adopted to encourage fixed-asset formation and to discourage inventory holding of goods.

5. Company Deposits. The rates of interest offered on company deposits also have a rising structure as one moves from one-year deposits to 3 year deposits. Thus, in most cases, the rates of interest are higher on debts (i.e, assets) of longterm maturity. The main reason for this is to encourage long-term public savings or to attract long-term funds.

6. Overall Position. As far as homogeneous classes of assets are concerned, the long-term interest rates were mostly higher than short-term interest rates till about 1972-73. Thereafter, either certain short-term rates have tended to exceed some long-term rates, or the spread between these two types has declined. There is not single explanation for this phenomenon. Different forces have been at work in differnet spheres.

7. Appropriate Policy. The policy of keeping the long-term interest rates low to encourage fixed investment, and raising the short-term rates of interest to discourage inventory investment should be abandoned. On the other hand, this does not suggest that short-term interest rates should be reduced in order to establish a proper alignment between the two rates. The proper policy is to allow these rates to find their own levels under the free market conditions.

1.4.13 Prime Lending Rate

Prime lending rate (PLR) is the rate which the lender charges the borrower of high credit standing. During 1975-76 to 1994-95, PLR remained an administered interest rate. With effect from October 18, 1994, the lending rate was deregulated in respect of loans above Rs. 2 lakh. In the deregulated system, each of the major commercial banks and term-lending institutions began fixing their PLRs. With effect from April

19,2001, PLR has been converted to a bench mark lending rate for banks. Distinction may be made between nominal PLR and real PLR. Real PLR is worked out with reference to the 52 week average wholesale price index (WPI).

1. PLR and Credit Flow

Low nominal PLR may not increase demand for credit. Similarly, high nominal PLR does not always indicate a sluggish credit off-take. What is of relevance is the real PLR (and not nominal PLR), the expected real growth in the economy and the industry concerned. When the inflation rate falls faster than the interest rate, the real interest rate will be high and the demand for the credit will be low. Deceleration in the demand for credit reflects the slow down in the industrial activities and depressed investment.

Demand for credit is influenced by several other factors, such as industrial and agricultural growth, export demand, competitive strength of firms, etc., apart from interest rates. Effective demand for credit pre-supposes effective demand for goods and services via increase in income which is the result of growing real activity in the economy. Thus, poor off-take of credit becomes a consequence rather than a cause of deceleration in economic growth. And the cheap money policy through reduction in rate of interest may not work during the period of economic slowdown.

1.4.14 MONEY INTEREST AND PRICES

In India, the increase in interest rates has taken place along with the increase in prices and money supply. The possible explanation for this phenomenon lies in Wicksell's theory of cumulative process.

1. Natural and Market Rate of Interest

Wickshell distinguishes between the natural rate of interest and the market rate of interest. The natural rate of interest or the capital rate of interest refers to the rate of return on capital goods. It is that rate of interest at which saving equals investment. The market rate of interest or the money rate of interest, on the other hand, is the rate of interest actually prevailing in the market. It is that rate of interest at which the demand for loanable funds equals the supply of loanable funds.

2. Cumulative Process and Monetary Equilibrium

Wicksell's cumulative process explains how the monetary equilibrium is achieved through changes in prices and market rate of interest, once a discrepancy arises between the natural rate on interest and the market rate of interest. Monetary equilibrium requires three conditions to be satisfied simultaneously : (a) the market rate of interest equals a natural rate of interest ; (b) real investment equals real savings ; and (c) the price level has no tendency to move upward or downward. The monetary authorities have an important role to play in stabilizing the price level and restoring monetary equilibrium. Table 2 illustrates Wicksell's process through which the divergence between the natural rate of interest and the market rate of interest is removed and the monetary equilibrium is restored. **Table 2**

Condition	**Interest rate Relation**	**Saving Investment Relation**	**Change in Price level**
Inflation	$i_m < i_n$	S<I	ΔP>0
Deflation	$i_m > i_n$	S>I	ΔP<0
Equilibrium	$i_m = i_n$	S=I	ΔP=0

i_m is the market rate of interest i_n is the natural rate of interest

(i) During Inflation; Market rate of interest is lower than the natural rate.($i_m < i_n$), saving is less than investment. (S<I) and there is a cumulative rise in prices. (ΔP>0). In such a situation, the demand of loanable funds tends to increase because the borrowers need larger funds to finance their investments. On the other hand, the supply of loanable funds tends to decrease because the bank's reserves are being depleted. In order to protect their reserves, the banks will raise the bank rate. This will, in turn, increase the market rate and bring it equal to the natural rate. Thus the monetary equilibrium is restored.

(ii) During deflation; The market rate is higher than the natural rate.($i_m > i_n$), saving is greater than investment (S>I) and the prices are continuously decreasing (ΔP<0). In this case, the bank rate will be reduce, which will lower the market rate and bring it equal to real rate. Thus, the monetary equilibrium is restored.

(iii) Monetary equilibrium; is established when the bank rate is such that the equality between the market rate and the natural rate ($i_m = i_n$) and that between saving and investment (S=I) is maintained. There will be no Change in the prices (ΔP=0) and no need of altering the bank rate.

1.4.15 Positive Relation between Money Supply and Interest Rates

The next question is to explain the positive relationship between interest rate and money supply. According to Keynes, an increase in money supply tend to lower some interest rates ; open market purchases by the monetary authority tend to raise security prices and lower their yield.

(i) The expansion of money stock in India has taken largely through the creation of new money and the increase in bank's resources due to budget deficits. Thus the phenomenon of mechanical lowering of interest rates due to the purchase of government securities by the central bank has been absent in India.

(ii) The theoretical relation between money supply and interest rates is true only in an economy at, or near-full employment level, where the positive income effect on interest rates tends to be weak. But, in India, increase in nominal income has not been entirely due to an increase in prices ; output has also increased. Thus, the positive income effect has tended to offset the negative money supply effect on interest rates.

(iii) Faced with the prospect of high increase in prices (partly caused by an increase in money supply), the authorities could not allow the effect of money supply on interest rates to work in a downward direction.

To sum up, the secular trend to increase in the level of interest rates in India can better be explained in terms of (a) the adjustment of the market rate of the natural rate, (b) increasing rate to fight inflation, and (c) a positive income effect.

1.4.15.1 Self Check Exercise 1

1. What are the features of deregulated interest rates system?

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1.4.16 SOME OTHER INTEREST RATES

Some other categories of rate of interest are briefly discussed below :

1. Treasury Bill Rate. Treasury bill rate is administered by the RBI. It is not a deposit rate because, unlike deposits, treasury bills can be bought and sold freely in the market. Rates of interest or treasury bills and government bonds have been quite stable till 1980. They have increased much less in comparison with other rates of interest. Under the policy of the monetary authorities to keep the cost of government financing low and to maintain a stable market for government securities. After 1980, the cost of government finance increased in a big manner.

2. Interest Rates on Deposits, Small Savings and Government Bonds. The deposits rates of banks on savings deposits and fixed deposits of various maturities are fixed by the RBI and the deposit rates on post office savings deposits and fixed deposits are fixed by the government. The interest rates on government bonds (securities) are also administered rates.

Although all these financial assets offer the same degree of safety and liquidity and are more or less comparable in respect of tax advantages, yet the interest rate on small savings have been higher than the interest rates on government securities and bank deposits. The reason for relatively higher interest rates on small savings lies in the fact that the govt. has deliberately decided to offer relatively more attractive rates on these assets in order to channelise household savings to the exchequer.

3. Bazar Rate. The bazar bill rate, hundi rate and money lender's rates are much higher than the rates in the organised sector of the financial system. This is explained by the limited supply of funds, market imperfections and the existence of monopolistic elements, rather than the risk factor in the unorganised money market.

4. Real Interest Rate. While the nominal rates have shown a definite upward trend, the real rates have fluctuated in a disorderly manner and they have been either very low or negative in many years. In this context, the following inferences can be made :

(i) The relative rates of increase in nominal interest rates and price determine whether real rates would become negative, or whether they would decline or increase.

(ii) The higher the level of nominal rates, the greater their capacity to absorb price increase before they become negative.

(iii) If a high level of real rates is desired, the nominal rates should be increased at an accelerated rate in a period of inflation.

(iv) It becomes more and more difficult to maintain real rates at positive levels as the rate of inflation increases.

1.4.17 Summary

In India, the level of natural rate of interest has been quite high (a) because of the high rate of planned investment, and (b) because of a considerable degree of technological advancement which has been taking place in the country during the planned period. The market rate of interest, on the other hand, has been kept at a low level, not warranted by scarcity of capital, because of the mistaken notion of keeping the cost of investment low in order to induce such investment. The various theories of interest rates and the types of interest rates have been discussed in this chapter.

1.4.18 Glossary

(a) Expectations Theory : Expectations regarding future interest rates determine the present term structure of interest rates.

(b) Liquidity Premium Theory : This theory is based on the fact that interest rate risk is more on the longer maturity securities.

(c) Market Segmentation Theory : It is based on the fact that the security markets are dominated by large financial institutions that cannot easily make the kind of substitution that the expectation theory needs.

(d) Prime Lending Rate : The rate at which the lender charges the borrower of high credit standing.

1.4.19 Questions for Exercise

1. Discuss the various interest rates prevailing in India.
2. Highlight the features of the system of administered interest rates and market determined interest rates in India.
3. Explain the Market Segmentation Theory.
4. Discuss the features of Expectations Theory.
5. Discuss the Liquidity Premium Theory.
6. Explain the relation between money supply and interest rates.
7. **Write short notes on :**
   - (a) Corporate debt market
   - (b) Credit-edged market
   - (c) Prime Lending Rate
   - (d) Real Interest Rate
   - (e) Treasury Bill Rate
   - (f) Market Segmentation Theory
   - (g) Limitations of Liquidity Premium Theory

1.4.20 SUGGESTED READINGS

1. M.C. Vaish : Money, Banking & International Trade
2. D.M. Mithani : Money & Banking
3. M.L. Seth : Money, Banking & International Trade
4. M.Y. Khan : Indian Finacial System

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